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MINISTRY OF AGRICULTURE

MONTHLY REPORT

DECEMBER, 1935

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BY R. H. RITCHIE, ENNISKILLEN

FOREWORD.

I am aware of the difficulties of writing a foreword to the Monthly Report at this time of the year. It is always hard to see the events of a past year in true perspective, and to attempt to prophesy is, for obvious reasons, too dangerous. I think, however, that a future historian of Northern Ireland agriculture will agree with me that the experience of the year 1935 has justified the Government's agricultural policy. He will see the advantages which have resulted in this year from the growing spirit of co-operation among farmers, from the efforts of the Ministry of Agriculture to ensure that co-operation is not jeopardised by a selfish minority, and from the facilities which Northern Ireland enjoys in the British market.

To the farmer the increase of 20 per cent. in the total number of pigs and the 19 per cent. increase in the number of breeding sows, with its promise of even greater production in the coming year, the 4 per cent. increase in the number of cattle and the new high record in the number of sheep in the country, the payment to Northern Ireland producers of roughly £430,000 out of the Imperial Exchequer as subsidies to milk and beef production, and the maintenance of remunerative prices for bacon pigs, must seem the most impressive facts of the past year.

But there have been other developments in Northern Ireland agriculture in 1935, of less obvious immediate benefit perhaps, which may seem to the imaginary historian of far greater significance than the events which I have described. I think he will lay most emphasis on the successful conclusion of the Spahlinger experiment in Tubercular Vaccine, the first stages in the cleaning up of our milk supplies, the institution of the Joint Milk and the Pig Industry Councils, and the establishment of factories for curing bacon on Wiltshire lines.

A maxim of the business world is that the customer can do no wrong ; indeed the whole organisation of business is devoted to pleasing the consumer. At one time farmers were able to scorn this attitude, but alas, in the present day owing to the vast increase in agricultural productivity during the past 50 years, a declining birthrate, and keen competition in food-markets, the farmer has had to surrender his independence and to subscribe to a consumers' demand which is highly specialised. Even now, when the quantitative regulation of imports into the United Kingdom offers tremendous possibilities of expansion to the home producer, the consumer is still the dictator, and if he fails

to get, for example, the kind of bacon which he had from Denmark before imports from that country were restricted, he will soon overthrow the measures which have been taken to help the farmer. It is for this reason I think that the setting up of Wiltshire bacon factories is of such importance to the pig industry in Northern Ireland.

While milk producers in Northern Ireland do not depend on the Great Britain market, they have to consider the requirements of the home consumer ; the successful beginnings of grading in the milk industry which involve cleaner and healthier milk supplies, are another indication that the farmer is beginning to see that the consumers' interests and his own are really one and the same.

As for the Councils, I attach very great importance to the fact that in 1935 for the first time representatives of sections of the industry which were previously in keen competition have been sitting together around the same table and making decisions which are for the good, not of any one interest, but of the industry as a whole. It is gratifying to find that the prices which they have fixed have satisfied all sections of the industry. I do not think that I am rash in saying that 1935 has been a year not only of immediate advantage to farmers, but one full of promise for the future. It is my earnest hope that this promise will be fulfilled.

BASIL S. BROOKE.

Readers are requested to note that any correspondence on the subject of this report should be addressed to the Secretary, Ministry of Agriculture, Stormont, Belfast, and marked "Monthly Report" in the top left-hand corner of the envelope. The postage on such letters need not be prepaid.

CONTENTS.

	PAGE
Agricultural Conditions at 1st December	1
The Markets during November	5
The Christmas Poultry Trade	6
The Potato Trade Outlook	8
Milk and Milk Products Act (Northern Ireland), 1934:	
Creamery Milk Supplies	10
Milk Marketing Progress	12
Election of Members to the Joint Milk Council	17
Pig Prices in 1936	20
The Pigs Marketing Scheme (Northern Ireland), 1933:	
Dead Pig Prices for December, 1935	22
Live „ „ „	24
The Cattle Industry (Emergency Provisions) Acts, 1934 and 1935	25
Wheat Act, 1932	25
Seasonal Farm Notes	26
Wheat Growing	32
Registration of Accredited Poultry Farms	33
Feeding of the Poultry Breeding Stock	34
Artificial Hatching	37
Proprietary "Thriving Mixtures" for Feeding Purposes	39
Comparison of Linseed Cake and Bran in rations for fattening cattle	40
Winter Rations for Live Stock	42
Results of Potato Experiments	43
Poisonous Waterside Weeds	46
Restoration of Old Hedges	47
Egg Laying Tests	48
Report on Thirteenth Egg-Laying Test at Stormont	50
Announcements and Reminders	52
Training of Girls in Poultry Keeping, Dairying, &c.	54
Milk Bottles	54
Fourteenth Egg-Laying Test at Stormont	55
Prices of Feeding Stuffs	57
„ Fertilisers	59
Shipments of Live Stock from Northern Ireland	61
Imports and Exports	62
Prices of Fat Stock at Belfast Auction Marts, November, 1935	62
„ Live Stock at Fairs	63
Trade in „ „ „	64

VOLUME X, No. 8.

MINISTRY OF AGRICULTURE, NORTHERN IRELAND.

MONTHLY REPORT, DECEMBER, 1935.

AGRICULTURAL NOTES.

With the approach of Christmas, activity in agricultural markets will increase and poultry, in particular, will come in for special attention. Therefore a further reference to the prospects for the sale of turkeys this season is made in this issue on page 6.

A special article of interest to all those engaged in the potato trade, growers and shippers alike, has been included this month in the hope that it will give timely guidance for the development of this season's trade, which has shown a welcome improvement within recent weeks. This appears on page 8.

The Milk and Milk Products Act comes in for special mention in the account of Creamery Milk Supplies on page 10, and the reprinted wireless talk on Milk Marketing Progress on page 12. The latter was given from the Northern Ireland Studio by Mr. D. A. E. Harkness, M.A., on Friday, December 6th, and appears through the courtesy of the British Broadcasting Corporation, to whom the Ministry wishes to express its thanks. The results of the election of members to the Joint Milk Council are given on page 17.

The interest of the Pig Industry is catered for in the special article on Pig Prices for 1936, on page 20.

Further information regarding the various schemes will be found in these pages and in addition to the advice given in the Seasonal Farm Notes, there are several articles on a variety of subjects of importance to farmers.

AGRICULTURAL CONDITIONS AT THE 1ST DECEMBER, 1935.

The weather during November was much the same as during the previous two months; heavy rains continued to fall throughout the month and thus ended one of the wettest autumns within recent years. The almost incessant rains and storms caused much material damage chiefly through flooding, whilst outdoor farm work was kept practically at a standstill. The few dry days were scattered, and therefore ground conditions remained unsuitable for seasonal work. Ploughing and potato digging were delayed, and comparatively little progress could

be made with the sowing of winter wheat. Pasture lands, particularly those situated in low-lying areas, deteriorated rapidly; even those on the higher ground were adversely affected by the excessive rainfall and by the ground frosts which were frequent towards the end of November, so that the hand feeding of outlying cattle had to be practised on a larger scale than usual for the time of the year.

Foodstuffs, both crop foods and concentrates, however, remained available at reasonable prices.

As a general rule cattle and sheep have withstood the adverse conditions fairly well, but outlying store cattle, which did not receive much hand feeding, are showing the effects of the rough weather and the scarcity of good winter keep.

The Crops.

Wheat.—Except in the early districts very little winter wheat has been sown as yet, the rains and sodden ground conditions making this work impossible. Unless weather conditions improve soon it is considered that the acreage under winter sown wheat will be appreciably less than last year. Early sown crops of wheat are making satisfactory progress, the brairds being generally good and strong.

Sales of small supplies of wheat to authorised merchants last month were effected at from 5/– to 5/6 per cwt.

Oats.—Threshing operations were pushed forward during the spells of favourable weather and fair progress was made with this work. The yields in most instances have given satisfaction, being above the average, whilst the quality of the grain is mostly good.

Increased supplies of white oats were marketed last month but prices were unchanged at round 5/3 per cwt. The average price of white oats in November, 1934, was 5/7 per cwt.

Barley.—Results from threshing during November have been very good and the yields should be well up to average dimensions. Small quantities of grain have been selling at from 6/– to 6/9 per cwt.

Flax.—The scutching of flax continued during the month with good results. Some very high yields have been obtained from the pure line varieties and it is estimated that the average yield per statute acre for this season's crop will be higher than last year. The quality of the fibre generally is considered to be good.

Considerably increased supplies were marketed last month and prices improved slightly, the average price for November being 9/4½ per stone as against 8/6 per stone in October and 9/– per stone during November, 1934.

POTATOES.—Although the continuance of wet weather hampered digging operations only a relatively small proportion of the crop remains to be lifted. On the whole the tubers are keeping well in the pits and stores, but it is expected that in flooded areas a considerable amount of damage will eventually result. In some cases it is noticed already that tubers of the white varieties are becoming affected.

Supplies of main crop varieties marketed during the month were much larger than in October and prices, which fluctuated slightly during November, had a steady upward tendency towards the close and reached 3/0¼ per cwt. for the week ended 7th December as compared with 2/4½ per cwt. for the first week of November and a similar figure at the opening week of December, 1934. Very heavy shipments took place during November, particularly during the last two weeks, during which prices paid by export merchants showed a slight, but nevertheless welcome improvement. For the week ended the 7th December the rise in prices became more marked and ranged as follows :—

	Bagged.	Loose.
Up-to-Date, Red Soil	£3 0 0 to £3 15 0	£2 7 6 to £3 0 0
Up-to-Date, Grey Soil	£2 15 0 to £3 0 0	£2 10 0
Arran Consul	£2 15 0 to £3 5 0	£2 10 0 to £2 15 0
Arran Victory Kerr's Pink	£2 10 0 to £3 7 6	£2 5 0 to £2 15 0

Farmers who have considerable stocks of potatoes on hands should read the article on page 8 of this report which summarises the position in regard to supplies available for the British market.

MANGELS.—The lifting and storing of the roots were completed during the month and the returns generally are regarded as satisfactory being, it is anticipated, well up to the average.

TURNIPS.—This crop has grown out well and the returns should be rather better than for last year. It is, however, reported that there is an appreciable proportion of diseased roots in some areas.

HAY.—The estimated average yield of this year's entire crop is 1.9 tons per statute acre as compared with 1.8 tons in 1934 and a similar average yield for the five years 1930/34. First year's hay yielded 1.6 tons on the average this season, a yield similar to that of last year, as also did second and third year's hay, whilst permanent meadow hay yielded 2.1 tons per statute acre as against 2 tons last year. Larger supplies of upland and meadow hay were marketed last month than in the preceding month and the prices showed a steady improvement during November and finished close up to last year's quotations. For the week ended 7th December first and second years' upland hay averaged 56/- per ton and meadow hay 41/3 per ton as compared with 55/7

per ton and 42/5 per ton, respectively, at the beginning of December, 1934. The monthly average prices per ton were :—

	1935.	
	October	November
Upland Hay, per ton ..	50/5d. ..	52/9d.
Meadow Hay, per ton ..	35/6d. ..	40/1d.

Increased supplies of grass seeds were selling at steady rates throughout the month, but prices remained much lower than the high levels of last year. The following were the average prices per cwt. last month and the corresponding month a year ago:—

	November.			
	1934.			1935.
	s.	d.		s. d.
Italian	21	6	..	11 $3\frac{1}{4}$
Perennial	19	4	..	13 $5\frac{3}{4}$
Mixed	18	5	..	9 2

Small supplies of crested dogstail were marketed in November and prices, which averaged 80/- per cwt. at the beginning of the month, dropped to 68/6 per cwt. during the first week of December.

Live Stock.

Cattle.—The weather during the past two months has been very severe on store cattle. Hand feeding with hay and concentrates had to be resorted to earlier than usual this year and in most cases farmers were obliged to house their stock at night. Where owners have taken the necessary precautions, cattle have been maintained in a fair average condition, but in some herds outlying stock are in a poor state, the result of cold and damp conditions and poor pasturage. Having regard to all the circumstances, however, the position is satisfactory and the bill of health generally is clean.

Dairy cattle also have been affected by the cold weather and are hardly in as good condition as at this time last year. Nevertheless there have been few complaints and, with the exception of a few cases of contagious abortion, calving is normal and the general health good.

At fairs held during the past month, store and fat cattle were in large numbers and a slightly better trade at firmer rates. Dairy cattle, especially those showing quality, continued to meet a good demand and, as a general rule, recent high prices were fairly well maintained.

Sheep.—The flocks are in fair condition and outbreaks of foot rot and fluke appear to have been kept in check.

Small supplies of fat lambs and of breeding ewes offered at fairs throughout the month were in good demand at satisfatory prices.

PIGS.—Large numbers of young pigs continued to meet with a steady trade but prices were a little easier last month and averaged 30/10 per head as against 32/1 per head in October. Sows for breeding were in larger supply and averaged £7 10s. per head as compared with £7 5s. per head in October.

HORSES.—The trade for horses continued very brisk during November, and good young animals were scarce and in demand at from £40 to £50 each, whilst useful farm horses were fetching from £25 to £40 each.

MILK.—The seasonal decline in the milk yield has, it is considered, been hastened by the rough weather conditions, but with the Milk Scheme attracting a greater number of suppliers, creameries found ample supplies available at prices ranging from 4d. to 5¼d. per gallon, the separated milk being returned to the farmers.

The average price paid during the month of October for all milk produced in Northern Ireland and delivered to creameries for manufacturing purposes was 4.86d. per gallon, and the Ministry has made equalisation payments at 1.14d. per gallon in order to bring the average price in respect of this month to 6d per gallon., as provided by the Milk and Milk Products Act (Northern Ireland), 1934.

It should be noted that under the Regulations, creameries are required to distribute the equalisation payments in accordance with the butter-fat content of the milk received from each supplier. Farmers should, therefore, bear in mind that the actual payments made to them, being calculated on a butter-fat basis, may be at a rate per gallon which may vary below or above this average figure.

THE MARKETS DURING NOVEMBER.

Supplies of the principal vegetables marketed last month were much larger than in October. There were increased supplies of cabbage and cauliflowers marketed in Belfast during the month. Cabbage were 6d. per dozen cheaper at 1/6 per dozen ; cauliflowers 1¼d. dearer at 2/6 per dozen ; savoys 2½d. cheaper at 1/2½ per dozen ; leeks ½d. cheaper at 4½d. per bunch ; parsley ¼d. dearer at 5¼d. per bunch ; carrots 1/9 dearer at 8/9 per cwt. ; parsnips 1¼d. cheaper at 5/3¾ per cwt., and garden turnips 1d. cheaper at 1/7 per cwt.

Farmers' butter was more plentiful than in October. Print butter was 1¼d. dearer at 1/3 per lb., and lump butter 2d. dearer at 1/1¼ per lb. Hen eggs were less plentiful, and the price increased by 2d. to 1/1¾ per lb. There was a further increase in the supply of duck eggs, and the price rose by 1/7¼ to 13/6¼ per 120. There was an all-round increase in the supply of poultry at markets last month as compared

with October. Hens were ½d. dearer at 1/7 each; chickens were unchanged in value at 1/11 each, and ducks were 1d. cheaper at 1/9¾ each.

There was a decrease in the quantity of long unwashed wool marketed, but mountain unwashed wool was in larger supply. Prices remained firm at 5d. and 4½d. per lb., respectively.

The Cost of Living Index Figure.

The cost of living index figure at 1st November, 1935, was 47, or two points above that for the previous month. The figure at 1st November, 1934, was 44.

THE CHRISTMAS POULTRY TRADE.

Those engaged in the poultry industry in Northern Ireland will have learned, from the article on the above subject which appeared in the Ministry's Monthly Report for November, 1935, and which was reprinted in some of the local papers, that the prospects for this season's trade are brighter than at this time in recent past years. Too much optimism about prices rising as the result of a shortage of supplies may, however, prove disastrous. According to latest advices received from London and provincial centres of England, the position has eased appreciably during the past few weeks with the arrival of moderately large supplies from Ireland, whilst regular supplies continue to arrive from the Continent.

In regard to supplies from foreign countries, it will be remembered that the import duty, which was increased to 3d. per lb. on 2nd May last, was designed to further the interests of home producers. This increased duty and the fact that the turkey populations in England and Wales, Scotland and Northern Ireland, have decreased since last year, may cause a shortage of supplies and a strengthening of the demand, but, on the other hand, several factors may have a counter effect. In the first instance, it appears that Irish Free State supplies are fairly plentiful, and, as the duty on these turkeys has recently been reduced to 5d. per lb. and a bounty to exporters covers the greater portion of this duty, it is very likely that heavy supplies will be shipped from this source. Again, under the terms of the Ottawa Agreements of 1932, supplies from the Empire countries are admitted free of duty, and countries such as Canada and Australia, the former particularly, have marketed large quantities in recent years, and competition from these sources may be more formidable this year.

As a good level standard of prices is more likely to be maintained when supplies are sent forward at a uniformly steady rate than if supplies are available intermittently, it will be appreciated that when supplies are dumped on the market late, serious results are likely to

follow. It should also be realised that some time must necessarily elapse between the date of disposal of the live birds at the local markets and the date on which these birds are available to cross-Channel consumers, so that if supplies are withheld too long from the local markets the shippers will not be able to have the birds on the cross-Channel markets in time, and, therefore, may not be able to pay full prices to the producers.

Producers should, in all cases, make a special effort to market their birds sufficiently early to permit of their being dressed and packed properly by the shipper, and placed on the markets in the best possible order and condition.

On Friday, 13th December, 1935, Poultry Prices at the London Central Markets were :—

TURKEYS :

Argentine	1/- to 1/2	per lb. (dead weight)
Central European ..	1/2 to 1/4	,, ,,
Irish—Best	1/4 to 1/6	,, ,,
Seconds ..	1/1 to 1/3	,, ,,

CHICKENS :

Northern Ireland—Prime ..	10d. to 1/-	per lb. (dead weight)
Fatted ..	11d. to 1/2	,, ,,
Irish Free State—Coloured, lean	11d. to 1/-	,, ,,
Fatted ..	1/- to 1/1	,, ,,
White ..	1/1 to 1/1½	,, ,,

DUCKS :

Aylesbury	11d. to 1/-	per lb. (dead weight)
Others	10d. to 11d.	,, ,,

Prices of Poultry at Liverpool Corporation Retail and Wholesale Markets during the week ending 14th December, 1935, were :—

	Retail. per lb. (dead weight).	Wholesale. per lb. (dead weight).
Turkeys—Irish ..	1/6 to 1/9	1/- to 1/6
Foreign ..	1/6	1/1 to 1/3
Ducklings	1/3	10d. to 1/-
Chickens	1/- to 1/4	10d. to 1/1
Fowls	9d. to 10d.	6½d. to 8d.

Turkeys at Northern Ireland Markets held during the week ended 14th December averaged 1/0½ per lb. live weight, and ranged in prices from 11d. to 1/4 per lb. live weight, while Geese are fetching from 4d. to 7d. per lb. (live weight) and averaged 5½d. per lb. live weight.

The average prices for other fowl for the week ended 14th December, 1935, were :—

	s.	d.	
Hens ..	1	9½	per head
Chickens ..	2	6	,,
Ducks	2	5½	,,

THE POTATO TRADE OUTLOOK.

According to recent reports, issued by the Departments concerned, estimates of the total production of this year's crop of potatoes in (1) England and Wales, and (2) Scotland, are appreciably lower than for 1934, and since there has been a decrease in the acreage under this crop in Northern Ireland the total quantity that will be available for the British markets this year will be considerably less than in the 1934/35 season.

In regard to England and Wales, the yield per statute acre for the whole country is estimated at 6.3 tons or 16 cwt. less than last year's yield. This year's estimated yield is also 2 cwt. less than the average yield for the 10 years 1925-1934. The total production for this year is estimated at 2,919,000 tons, compared with 3,439,000 in 1934, and with 3,156,000 tons, the average yearly production of the past 10 years, or 520,000 tons less than last year, a decrease of approximately 15 per cent. as compared with the production in 1934.

The forecast of this crop of potatoes in Scotland is given at about 833,000 tons or 192,000 tons less than in 1934, a reduction approaching 20 per cent. Assuming that the average yield per statute acre for this year's potato crop in Northern Ireland will be about the same as that recorded for 1934, viz., 6.7 tons per statute acre, and in view of the satisfactory nature of the reports so far received this seems a reasonable assumption, the total production in this country will be approximately 865,000 tons ; a reduction in the region of 58,000 tons or a 6 per cent. decrease.

In view of the smaller production forecasted in Great Britain, it would seem that the industry in this country is in a more favourable position to dispose of its stocks in the cross-Channel markets than for the past three seasons.

The following tables comparing shipments and market prices of potatoes during recent weeks and the corresponding weeks of last year, will be of interest in this connection.

Shipments of potatoes from Northern Ireland ports to Great Britain during the following weeks compared with similar information for 1934.

Period.	1935.	1934.
	Tons.	Tons.
Week ended 7th September	671	172
,, 14th ,,	530	212
,, 21st ,,	880	230
,, 28th ,,	919	496
,, 5th October	1,567	795
,, 12th ,,	2,599	1,119
,, 19th ,,	3,752	1,274
,, 26th ,,	4,207	1,848
,, 2nd November	4,638	1,990
,, 9th ,,	5,658	1,572
,, 16th ,,	3,639	2,628
,, 23rd ,,	6,008	2,823
,, 30th ,,	6,480	2,663
,, 7th December	6,452	1,752

Average prices of potatoes at representative markets in Northern Ireland during recent weeks compared with a year ago :—

Week ending.	Arran Victory. Per Ton.		Main Crop (all classes) Per Ton.	
	1934.	1935.	1934.	1935.
	s. d.	s. d.	s. d.	s. d.
August 31	73 3	79 3	75 0	76 9
September 7	65 9	69 6	73 3	68 3
,, 14	63 3	68 3	66 9	65 0
,, 21	50 9	63 3	53 3	59 3
,, 28	55 9	53 0	55 0	51 9
October 5	61 9	53 0	59 3	50 9
,, 12	60 9	53 3	58 3	51 3
,, 19	61 9	50 0	60 9	50 0
,, 26	59 3	47 6	57 6	50 6
November 2	58 3	50 0	56 9	50 0
,, 9	56 9	47 0	55 0	47 6
,, 16	51 9	46 9	50 9	50 6
,, 23	50 9	45 9	48 3	45 9
,, 30	48 3	50 0	48 3	49 3
December 7	50 0	62 0	46 9	60 6

If full advantage is to be taken of opportunities for increasing trade during the next few months, no hitch must be allowed to occur in the sales negotiations between the growers and the shipping merchants that would cause the cross-Channel demand to be left unsatisfied, even for a short period. The Ministry, therefore, suggests in the interest of both parties that there should be full collaboration between grower and merchant born of confidence in sale negotiations. This

can best be brought about by the merchants who should continue to pass on to the growers a reasonable share of the profits accruing from rising market prices.

As a final word to both parties the Ministry would ask them to bear in mind that the British consumers' requirements must be satisfied and that any attempt to force up prices rapidly may prove disastrous to the industry.

MILK AND MILK PRODUCTS ACT (NORTHERN IRELAND), 1934.

CREAMERY MILK SUPPLIES.

In the Monthly Report for June last reference was made to the position of creameries under the Milk and Milk Products Act (Northern Ireland), 1934, and to the increase which had taken place in creamery milk supplies as a result of the granting of equalisation and bonus payments to producers. The figures then given were in respect of the period ended 31st March, 1935, and in this article the figures for the past six "summer" months (April–September) are discussed.

Under the Act farmers supplying milk to creameries were guaranteed as from the 1st April, 1934, an average price of 5d. per gallon in summer and 6d. per gallon in winter. In the following table are given the gallonages supplied to creameries for manufacturing purposes during April–September in each of the years, 1933, 1934 and 1935, and it will be observed that the total supply during the past summer season showed an increase of over 30 per cent. on the corresponding figures in 1933 and 1934 :—

Month.	1933.	1934.	1935.
	Gallons.	Gallons.	Gallons.
April	768,916	755,498	1,182,105
May	1,638,292	1,406,267	2,395,942
June	2,594,731	2,537,733	3,208,770
July	2,705,606	2,714,587	3,564,203
August	2,480,124	2,648,925	3,214,637
September	2,139,073	2,088,306	2,690,575
TOTALS ..	12,326,742	12,151,316	16,256,232

A comparison of the average prices per gallon paid by creameries for milk in the summer months during the past three years reveals

that the price position was substantially better in 1935, due mainly to the improvement in the butter market :—

Month.	Average price per Gallon.		
	1933.	1934.	1935.
April	3.79d.	3.7d.	3.61d.
May	3.26d.	3.3d.	3.18d.
June	3.11d.	3.0d.	3.11d.
July	3.08d.	2.8d.	3.34d.
August	3.23d.	2.9d.	3.70d.
September	3.72d.	2.92d.	4.29d.

The numbers of farmers supplying milk to creameries during April–September in each of the years 1934 and 1935 are given in the following table :—

Month.	1934.	1935.
April	11,320	14,515
May	13,636	18,040
June	16,835	21,223
July	18,542	21,509
August	18,466	21,462
September ..	17,294	21,150

The numbers of suppliers and the average gallonage delivered per supplier during each of the months April–September, 1935, inclusive, were as follows :—

Month.	No. of Suppliers.	Average Gallonage.
April	14,515	79
May	18,040	133
June	21,223	151
July	21,509	166
August	21,462	150
September ..	21,150	127

The following table shows the number of gallons of each grade of milk supplied to creameries for manufacturing purposes during the six months ended 30th September, 1935 :—

Month.	Grade A.	Grade B.	Grade C.	Grade D.	Totals.
April	938	3,549	230,815	946,803	1,182,105
May	455	9,503	499,690	1,886,294	2,395,942
June	394	13,360	677,377	2,517,639	3,208,770
July	405	8,656	738,402	2,816,740	3,564,203
August	437	4,358	706,567	2,503,275	3,214,637
September ..	93	8,897	599,514	2,082,071	2,690,575

The percentage proportions in which milk of different grades was delivered to creameries during April–September last are shown in the following table, and it is worthy of note that the tendency is towards a decrease in the proportion of milk of Grade D :—

Month.	Grades A & B.	Grade C.	Grade D.	Total.
	%	%	%	
April	.38	19.53	80.09	100
May	.42	20.85	78.73	100
June	.43	21.11	78.46	100
July	.25	20.72	79.03	100
August	.15	21.98	77.87	100
September	.33	22.28	77.39	100

Under the Act, milk of Grade A or Grade B supplied to a creamery for manufacturing purposes qualifies for a bonus payment of 2d. per gallon, while a bonus of 1d. per gallon is payable in respect of milk of Grade C.

Certain of the figures in the foregoing tables are as yet only provisional and are subject to amendment on inspection of the records kept at the creameries.

MILK MARKETING PROGRESS.

(Reprint of Wireless Talk).

There is probably no activity of the Ministry of Agriculture which affects a greater number of people than the administration of the Milk and Milk Products Act (Northern Ireland), 1934. It may be claimed, indeed, that almost every man, woman and child throughout Northern Ireland has in some way been directly affected by the passage of this measure. Any survey of milk marketing progress during the past eighteen months must, therefore, take into account the great changes which have occurred as a result of this Act and of their affect upon not only the producer but also the distributor and the consumer.

To start with, however, I want to speak upon what the Milk and Milk Products Act has meant to the producer, because, first and foremost, the Act is a measure designed for producers and for their benefit. Through it the conditions under which milk may be produced in Northern Ireland have been controlled so as to provide the public with a safe milk supply, but in return for this control the Act seeks to provide the efficient producer with a fair price for supplying a first rate article.

There are some 65,000 milk producers in Northern Ireland. The first thing to be done after the Milk and Milk Products Act became law in the summer of 1934, was to divide these milk producers into four classes—producers of Grade A, Grade B, Grade C, and Grade D milk. The magnitude of this task will be appreciated.

To-day, however, nearly 7,000 producers have been licensed for the production of milk for the liquid market, 65 as Grade A producers, 850 as Grade B producers, and over 6,000 as Grade C producers. All the cows in the herds of these 7,000 producers, numbering about 50,000 have been subjected to a veterinary inspection and all animals which have shown any visible symptoms of tuberculosis or any other signs of ill health have had to be removed from the herds. In the case of the 65 Grade A producers the cows have further been subjected to a special test by means of an injection of vaccine and any animals which failed to pass this test, showing that they were absolutely free from all trace of tubercular infection, have had to be removed.

In addition to looking after the health of the cows, the Ministry's Inspectors also see that each producer is qualified to produce the appropriate milk for his grade. In the case of Grade A and Grade B producers, the milk must be cooled and producers must have a satisfactory cooling plant ; they must also have adequate sterilising equipment and must be able to sterilise all the implements used in the production and handling of milk and also the bottles, if their milk is bottled on the farm.

A somewhat lower standard of equipment is necessary in the case of the Grade C producer, but here again his byres, his equipment and his facilities for scalding his equipment must be such as to enable him to comply with a high standard of cleanliness for his milk.

Periodical samples of milk are taken from each producer and are subjected to an appropriate test. If the milk does not come up to the necessary standard a producer is warned and instructed, and in the last resort, his licence may be removed.

This may appear a formidable account of the obligations which have been thrown upon producers as a consequence of the passage of the Act. They are formidable obligations but they have been willingly undertaken by producers with the object of providing a safe milk supply for the consumer. It is only right that in return the producer should receive some assurance in regard to the price which he will obtain for his milk.

Consequently, the Milk and Milk Products Act provided for the establishment of a Joint Milk Council composed of representatives of producers, distributors and consumers, together with three independent persons nominated by the Minister of Agriculture. This body is charged with the function of fixing wholesale prices for milk. The existing scale of prices, which came into operation at the 1st September was agreed upon unanimously by all the members of the Council, and provides that the price to the farmer shall be 1/– per gallon for Grade B and Grade C milk. Out of this the Grade B producer has to pay a levy of $\frac{1}{4}$d. and the Grade C producer a levy of $1\frac{3}{4}$d., leaving a net price per gallon of $11\frac{3}{4}$d. and $10\frac{1}{4}$d. respectively.

The fact that these prices have been accepted unanimously by all sections of the Council suggests that they are reasonable : they have been fixed for a period of twelve months and in addition to giving the farmer a more satisfactory price than he has enjoyed for some years past they also provide an assurance of a steady level price for a period of a whole year. There is little doubt that one of the most disturbing factors to the liquid milk producer in the past few years was the drastic reduction in prices which frequently occurred in the early spring when distributors were in a position to go out into the creamery districts and purchase supplies of milk which would formerly have been used for manufacture. In this way, the summer price of the liquid milk producer was in constant danger of being depressed and even during the winter months he was not free from the danger of undercutting as a result of cheap supplies from creamery districts. This danger has now been removed, but in return for this immunity from competition from the creamery districts the liquid milk producer has been called upon to pay a levy upon his milk sales. As I have already mentioned, this levy amounts to 1¾d. per gallon on Grade C. milk and to ¼d. per gallon upon Grade B milk ; in the case of Grade A milk it is 1/10th of a penny per gallon.

This money goes into a Milk Fund maintained by the Ministry of Agriculture, together with the assistance which has been obtained from the Treasury in Great Britain, with the object of helping the price of manufacturing milk in Northern Ireland.

Producers supplying milk to creameries in Northern Ireland have been guaranteed a price of 5d. in summer and 6d. in winter during the two years ended 31st March, 1936, and already a sum of £264,000 has been paid in fulfilment of this guarantee. In addition, producers of Grade A, Grade B or Grade C milk, who have not been able to find a place for their milk upon the liquid milk market and who have had to send this milk to a creamery for manufacturing purposes, are assured of a special bonus of 1d. per gallon in the case of Grade C milk, and of 2d. per gallon in the case of Grade A and B milk. In this way they are kept off the liquid milk market and are recompensed for not using their milk to undercut prices, for no farmer may sell milk to a distributor for liquid consumption unless that farmer has entered into a contract with the distributor for the supply of milk for the period ending 31st August next. A producer who has signed his contract knows that the market for his milk is secure and that another producer cannot come along and offer the distributor milk at a lower price. The producer who has not secured a contract and has to send his milk to a creamery receives this special bonus as compensation for being excluded from the liquid milk market.

Such, then, is the position in so far as the producer is concerned. What is the position after the milk leaves the producer and goes to a distributor ? I have described the care which is being taken to ensure

that only first-quality milk is allowed to be sold by the farmer for human consumption. It would clearly be futile to provide these elaborate precautions on the farm if the milk were not subject to corresponding care when it left the farm and came into the hands of the distributor. Consequently, all milk distributors have been required to take out a licence and comply with certain conditions. The number of licences issued amounts to over 1,800, not including producer retailers.

If a distributor is handling Grade B milk and is bottling that milk himself, he must instal a cooling and bottling plant and must have proper facilities for sterilising his bottles and equipment. Distributors who dispose of their milk loose must also have proper facilities for scalding their churns and cans. Moreover, each distributor must exercise care in seeing that his milk is sold to the consumer under the appropriate grade designation. If the milk is Grade B milk it must be sold in bottles. The distributor must also contract with a producer and enter into an agreement with that producer to pay him the appropriate price fixed by the Joint Milk Council.

These are the requirements of the Act so far as distributors are concerned. What are the corresponding benefits ?

The Joint Milk Council has fixed standard retail prices which assure the distributor of a definite margin for handling milk. This margin amounts to 8d. per gallon for handling Grade C milk, and 10d. per gallon for handling Grade B milk, which must, of course, be cooled and bottled. In this way, distributors have been assured of an adequate margin for their services, and since the retail prices fixed by the Council are statutory prices, distributors have been protected against unfair competition at cut rates.

Finally, I turn to what the developments of the past year have meant to the consumer of liquid milk. What I have already said indicates the elaborate precautions which are being taken to ensure that the milk-consuming public is provided with a beverage of first-rate quality which is healthy and wholesome. The consumer has three grades of milk open to him. There is, first of all, Grade A milk, which probably amounts to very nearly ten per cent. of all the milk sold for consumption in Northern Ireland. It is, of course, the finest grade of milk available, and yet it is at present being sold in Belfast at 6d. per quart ; certified milk—the corresponding grade in Great Britain—sells in London at 1/4 per quart. But the supply of Grade A milk is limited. The producer has the alternative of consuming Grade B milk. The current price for Grade B milk is 5½d. per quart in Belfast, while somewhat lower prices prevail in other parts of the country. This milk is also in bottles ; it has all been cooled, and its keeping qualities have thereby been enhanced. In the early days of the Scheme some consumers appear to have been prejudiced against Grade B milk

because it had been cooled and as a consequence the cream was not all resting on the top, as is the case when milk is relatively warm, but I think the housewife has realised during the past year that cooled milk is a better keeping article and, therefore, especially in hot weather, a more economical article to buy than is ordinary raw milk.

Grade C milk, which may be sold loose and at ½d. per quart less than the price of Grade B milk, is clean, healthy milk, but it is not milk which has been cooled, and consequently its keeping qualities are normally somewhat lower than is the case with Grade B milk. The supply of Grade B milk is, moreover, increasing more rapidly than consumption. Already a great deal of the Grade B milk which is being produced upon the farm is being re-sold by the distributor as Grade C milk, partly because the distributor is not in a position to comply with the conditions for handling Grade B milk, but also partly because the distributor has difficulty in persuading consumers to pay the extra ½d. per quart for Grade B bottled milk. In the long run, however, the Ministry is convinced that consumers will increasingly recognise the merits of milk of Grade A and Grade B and that sales of these classes of milk must inevitably increase.

The Ministry of Agriculture and the Joint Milk Council have, however, been anxious to ensure that nothing should be done to force upon the consumer a service which he does not want. That, in fact, is the fundamental principle underlying the Milk and Milk Products Act—to secure a fair payment for services rendered, but also to ensure that the services rendered by producer and distributor alike are necessary ones and are performed economically. The producer has been called upon to render a service to the public, by providing graded milk. In return, he deserves a fair payment for his services, according to whether his milk is of Grade A, Grade B or Grade C.

The distributor has likewise been called upon to perform certain services, and with him, likewise, payment depends on the nature of that service. If the distributor takes Grade B milk from the producer, cools and bottles that milk and delivers it to his customers direct, he is given a margin of 10d. per gallon for distributing that milk. If, on the other hand, he does not undertake cooling and bottling, but delivers his milk to his customers loose, he receives 8d. per gallon. Yet again, if he is content not to deliver milk at all, but to allow his customers to call at his shop and carry away their own supplies of milk, his margin is correspondingly reduced to 4d. per gallon, because in this case the distributor of Grade C milk is performing a less onerous and less valuable service than the distributor who leaves milk at his customers' doors.

Such in brief broad outline has been the progress of milk marketing reorganisation in Northern Ireland during the past eighteen months.

ELECTION OF MEMBERS TO THE JOINT MILK COUNCIL.

The election of members to the Joint Milk Council was held in December, 1935. The election was conducted by post, in accordance with the regulations framed under Section 9 of the Milk and Milk Products Act (Northern Ireland), 1934. Twenty-two persons were nominated as candidates by holders of Producers' licences, and ten by holders of Distriburors' licences. The numbers nominated for each Producers' electoral area were as follows :—

1.	The Administrative County of Antrim	6 candidates
2.	The County Borough of Belfast and the Administrative County of Down	4 candidates
3.	The County Borough of Londonderry and the Administrative County of Londonderry ..	2 candidates
4.	The Administrative Counties of Armagh, Fermanagh and Tyrone	10 candidates (of whom 2 withdrew)

The number of members on the Joint Milk Council to be elected by holders of Producers' licences was 7, whilst the Distributors were to elect 4 members.

The count of the votes was made on days notified to the candidates, and the detailed result is as follows :—

ELECTED BY HOLDERS OF PRODUCERS' LICENCES :

	THE ADMINISTRATIVE COUNTY OF ANTRIM.	No. of Votes.
1.	*George Thompson, J.P., Kilnburn, Dundrod, Crumlin, County Antrim	674
2.	*Edward Greenlees, Gravel Hill, Carnmoney, County Antrim	597
3.	Samuel Torrens, J.P., R.D.C., Ballinamoney, Ballymoney, County Antrim	208
4.	Thomas Luke, Polentamney, Ballymoney, County Antrim	206
5.	John K. McElderry, J.P., Linenhall Street, Ballymoney, County Antrim	183
6.	Andrew Ramsey, Throne Dairy, Whitewell, Belfast ..	163

1,858 papers were issued to Producers in County Antrim, of which 1,031 or 55.5 per cent. were returned and admitted to the count. The number of spoiled papers was 14.

THE COUNTY BOROUGH OF BELFAST AND THE ADMINISTRATIVE COUNTY OF DOWN.

		No. of Votes.
1.	*John McCune, Ballybeen House, Comber, County Down	479
2.	*David Wright, J.P., The Moat, Dundonald, County Down	462
3.	Wm. G. Weir, Downshire Road, Newry, County Down	138
4.	W. H. Richardson, Chemist, Portadown, County Armagh	102

1,266 papers were issued to Producers in Belfast and County Down, of which 603 or 47.7 per cent. were returned and admitted to the count. The number of spoiled papers was 14.

THE COUNTY BOROUGH OF LONDONDERRY AND THE ADMINISTRATIVE COUNTY OF LONDONDERRY.

1.	*Thomas Adams Galbraith, Ballyarnett, County Londonderry	234
2.	James McMath, Carthall, Coleraine, County Londonderry	151

674 papers were issued to Producers in Londonderry County Borough and County Londonderry, of which 385 or 57.1 per cent. were returned and admitted to the count. The number of spoiled papers was 4.

THE ADMINISTRATIVE COUNTIES OF ARMAGH, FERMANAGH AND TYRONE.

1.	*Matthew John Wauchob, J.P., Laraghs, Newtownstewart, County Tyrone	1,156
2.	*Robert Stevenson, Ballylaw, Artigarvan, Strabane, County Tyrone	1,115
3.	John Armstrong Watson, Main Street, Keady, County Armagh	343
4.	John Charles Connor, Drumberney, Drumcose Post Office, Enniskillen, County Fermanagh	247
5.	Charles Hunt, Dergmoney, Omagh, County Tyrone ..	224
6.	Michael McGurk, R.D.C., Killeenan, Cookstown, County Tyrone	153
7.	Francis Kelly, Drumlougher, Crossmaglen, County Armagh	142
8.	Chas. A. Breen, Tattysallagh House, Omagh, County Tyrone	129

2,426 papers were issued to Producers in Counties Armagh, Fermanagh and Tyrone, of which 1,803 or 74.3 per cent. were returned and admitted to the count. The number of spoiled papers was 29.

By Holders of Distributors' Licences.	No. of Votes.
1. *Thomas Dobson, 195-203 Beersbridge Road, Belfast ..	1,071
2. *Joseph Wilson, 168 Cliftonpark Avenue, Belfast ..	883
3. *James McCullough, 23 Frank Street, Belfast	603
4. *John Dickson, 1-3 Evelyn Avenue, Belfast	545
5. Archibald Robinson Erskine, 6 Bentinck Street, Belfast	487
6. John Ward, 66 Victoria Street, Belfast	416
7. Thomas George Emerson, "Loretto," 46 Castlereagh Road, Belfast	374
8. Andrew McCullough, 140 Haypark Avenue, Belfast ..	280
9. Robert Bradford, 69-71 Ballycarry Street, Belfast ..	200
10. James Wilson, 17-19 Euterpe Street, Belfast	129

1,307 papers were issued to Distributors, of which 1,052 or 80.5 per cent. were returned and admitted to the count. The number of papers spoiled was 31.

In all, 6,224 papers were issued to Producers, of which 3,822 were admitted to the count, a poll of 61.4 per cent., whilst 1,307 papers were issued to Distributors, of which 1,052 were admitted to the count, a poll of 80.5 per cent.

The new Joint Milk Council, which will take office at 1st January next for a period of two years, is therefore constituted as follows :—

Elected by Producers :

George Thompson, J.P., Kilnburn, Dundrod, Crumlin, County Antrim.
Edward Greenlees, Gravel Hill, Carnmoney, County Antrim.
John McCune, Ballybeen House, Comber, County Down.
David Wright, J.P., The Moat, Dundonald, County Down.
Thomas Adams Galbraith, Ballyarnett, County Londonderry.
Matthew John Wauchob, J.P., Laraghs, Newtownstewart, County Tyrone.
Robert Stevenson, Ballylaw, Artigarvan, Strabane, County Tyrone.

Elected by Distributors :

Thomas Dobson, 195-203 Beersbridge Road, Belfast.
Joseph Wilson, 17-19 Euterpe Street, Belfast.
James McCullough, 23 Frank Street, Belfast.
John Dickson, 1-3 Evelyn Avenue, Belfast.

In addition to the members elected by holders of Producers' and Distributors' licences, the Minister of Home Affairs appoints three members as representatives of milk consumers, and the Minister of Agriculture also appoints three members, of whom such one as the Minister may designate shall be Chairman of the Council. These six members have been appointed as follows :—

Appointed by the Minister of Home Affairs :

William Grant, Esq., M.P., 10 Glandore Gardens, Belfast.
John Wilson, Esq., J.P., 58 Donegall Street, Belfast.
W. V. McCleery, Esq., J.P., Ballinamore House, Ballymoney.

APPOINTED BY THE MINISTER OF AGRICULTURE :

H. A. M. Barbour, Esq., M.A., Strathearne, Dunmurry.

Lieut.-Colonel A. B. Mitchell, O.B.E., D.L., M.P., M.B., F.R.C.S.I., 18 Derryvolgie Avenue, Belfast.

Captain J. Maynard Sinclair, Springhill, 5 Derramore Park South, Belfast.

Mr. H. A. M. Barbour has been appointed Chairman of the Council.

PIG PRICES IN 1936.

Under the Agricultural Marketing (Pig Industry) Act (Northern Ireland), 1934, the Pig Industry Council for Northern Ireland is the price-fixing authority.

This Council is representative of both pig producers and bacon curers. Three independent members, one of whom is Chairman, are appointed by the Minister of Agriculture. When the Council began their deliberations in the spring of this year, they decided that dead pig prices in Northern Ireland during the remainder of the year should be fixed in accordance with a formula agreed at the end of 1934 between the Pigs Marketing Board (Northern Ireland) and the Bacon Marketing Board (Northern Ireland).

In practice, it has been found that the formula has resulted in prices acceptable to both curers and producers. Producers have continued to increase the numbers of pigs in the country, so that for the first time Northern Ireland pigs have passed the half-million mark. Moreover, curers have increased their output as compared with previous years, and, indeed, it would seem that this increased output has been marked by a steadiness in the marketing of pigs and output of bacon which has tended to maintain bacon and ham prices at a relatively high level.

The Pig Industry Council have for some time past had under consideration the method of price-fixing which should be adopted in 1936, and have decided, in view of the smooth working of the present formula during 1935, to continue it on the same lines for next year.

There are some points in this connection which every pig producer should note :—

If a producer wishes to sell his pigs dead to a roll and ham curer, the best price is obtainable for pigs weighing 1cwt. 1qr. 14lb. to 1cwt. 3qr. 14lb. dead weight, while if he is in a position to sign a contract for the delivery of live pigs to a Wiltshire curer he can secure a premium of 5/- on the standard price in respect of pigs weighing 1cwt. 0qr. 14lb. to 1cwt. 2qr. 7lb., dead weight, delivered by him under the terms of the contract.

Producers who wish to take advantage of the higher price for pigs of light weights sold on direct contract to curers should apply for further information to the Joint Secretaries, Pig Industry Council, Stormont, Belfast.

Producers selling live pigs to the Pigs Marketing Board will receive prices broadly comparable to those which they would receive if they sold the pigs dead to bacon curers, subject to the usual marketing charges payable to the Board. They should note, however, that for a special light weight range of live pigs suitable for the Wiltshire trade, weighing 1cwt. 2qr. 0lb. to 1cwt. 3qr. 14lb., live weight, enhanced prices will be payable by the Board, but in no circumstances will these prices exceed the prices paid for pigs supplied on direct contract, and they may be less than these prices.

The following tables should prove of special interest to every producer :—

TABLE I.

Course of Pig Prices Based upon the Formula during the year 1935.

Month.	Standard price.	*Average weight of pig carcase.	*Average price per carcase less levy deductions.
		c. q. lb.	
January	61/–	1 2 15	£4 15 5
February	61/8	1 2 16	4 17 2
March	63/1	1 2 13	4 17 7
April	61/11	1 2 12	4 15 0
May	60/6	1 2 13	4 13 0
June	60/6	1 2 9	4 11 6
July	60/6	1 2 13	4 13 3
August	59/4	1 2 14	4 10 7
September ..	57/2	1 2 15	4 8 4
October	57/2	1 2 17	4 9 0
November ..	57/2	Not yet available.	
December ..	56/–	—	—

* These figures have been calculated from the purchase and grading statements which the curers furnish to the Ministry.

TABLE II.

Statement showing the prices payable in 1936 for pork carcases weighing from 1cwt. 1qr. 14lb. to 2cwt. 0qr. 14lb.

Weight Class.	Grade A.	Grade B.	Grade C.
c.1.1.14 to c.1.2.14 ..	Plus 3/–	Standard Price	Cut 3/–
c.1.2.15 to c.1.3.14 ..	Plus 3/–	Standard Price	Cut 3/–
c.1.3.15 to c.2.0. 0 ..	Standard Price	Cut 3/–	Cut 6/–
c.2.0. 1 to c.2.0.14 ..	Cut 6/–	Cut 9/–	Cut 12/–

Table III.

Statement showing the prices payable in 1936 in respect of Light Weight Pigs sold alive under Contract Direct to Wiltshire Curers.

Dead Weight.	Grade 1.	Grade 2.	Grade 3.
Under c.1.0.14 ..	Cut 3/-	Cut 3/-	Cut 3/-
c.1.0.14 to c.1.2.7 ..	Plus 9/-	Plus 5/-	Plus 1/-
c.1.2.8 to c.1.2.10 ..	Plus 6/-	Plus 2/-	Cut 2/-
c.1.2.11 to c.1.2.14 ..	Plus 4/-	Standard price.	Cut 4/-
Over c.1.2.14 ..	Plus 1/-	Cut 3/-	Cut 7/-

There is no change in grading procedure or grade measurements.

The Pig Industry Council are preparing a memorandum giving details of the price-fixing formula and of the different scales of prices which will apply next year. Copies of this memorandum may be obtained free, on request to the Joint Secretaries, Pig Industry Council for Northern Ireland, Stormont, Belfast.

THE PIGS MARKETING SCHEME (NORTHERN IRELAND), 1933.

DEAD PIG PRICES FOR DECEMBER, 1935.

The Pig Industry Council for Northern Ireland have announced that the prices for dead pigs for sale by producers to curers in Northern Ireland in December are as follows :—

Graded Pig Carcases.

Weight Class.	Weights.	Thickness of Shoulder Fat in inches.			Price per cwt.		
		Grade A	Grade B	Grade C	Grade A	Grade B	Grade C
I	c.1.1.14 to c.1.2.14	1¼ -1⅞	2 -2⅛	2¼ -2½	59/–	56/–	53/–
II	c.1.2.15 to c.1.3.14	1⅝ -2	2⅛ -2¼	2⅜ -2½	59/–	56/–	53/–
III	c.1.3.15 to c.2.0.0	1½ -2⅛	2¼ -2⅜	2⅝ -2¾	56/–	53/–	50/–
IV	c.2.0.1 to c.2.0.14	1⅝ -2⅛	2¼ -2⅝	2¾ -2⅞	50/–	47/–	44/–

The price for partly black pigs between c1.1.14 and c.2.0.14 will be 5/– per cwt. below the relevant grade price.

Authorised cuts :—

(*a*) Broken ham (dry, shank and/or shell bone break)—5% of the gross value of the carcase.

(*b*) Broken ham (wet break)—12½% of the gross value of the carcase.

(*c*) Shoulder-stuck carcases—3/– per shoulder affected.

The gross value of a carcase is the product of the dead weight and the relevant Grade or other price per cwt.

Where a pig carcase weighing between c.1.1.14 and c.2.0.14 is diseased and the fact could not reasonably have been known to the producer at the time of slaughter the full Grade price applies where the carcase can be graded. Where such a pig carcase cannot be graded because it is wholly condemned it shall be paid for at Grade B price.

UNGRADED PIG CARCASES.

Code Mark.	Weights.	Defects.	Price per cwt. according to weight class.
UL	c.1.1.14 to c.2.0.14	Under Grade A measurements	6/– below relevant Grade B price
UF	c.1.1.14 to c.2.0.14	Over Grade C measurements	6/– below relevant Grade B price

The foregoing prices do not apply in the case of (a) wholly black pigs, boars, rigs or stags, sucked sows, and pig carcases weighing under c.1.1.14 or over c.2.0.14, and (b) pigs visibly diagnosable as diseased before slaughter and subsequently condemned ; emaciated or screw pigs ; smelling pigs with definite indications of putrefaction and pigs badly abused or damaged before being delivered by the producer to the curer.

AUTHORISED DEDUCTIONS :—

The total sum covering levies or contributions due to the Pigs Marketing Board (N.I.) to be deducted per pig in the case of sales of pigs by producers to curers or to the Board is 5/-.

In addition to this sum, a deduction of 6d. per pig may be made to cover insurance so that the producer will not suffer financial loss if the carcase is condemned for human consumption.

LIVE PIG PRICES FOR DECEMBER.

The Pigs Marketing Board have announced that the following prices have been fixed for live pigs on and from December, 1st, 1935, until further notice :—

Live Weights. cwts. qr. lbs.				cwts. qr. lbs.			Grade I. per live cwt.	Grade II. per live cwt.	Grade III. per live cwt.	Unsuitable per live cwt.
Wiltshire.										
1	2	0	to	1	3	14	50/6	48/–	45/6	39/6
Shipping.										
1	3	15	to	2	0	0	46/6	43/9	—	39/6
2	0	1	to	2	1	14	45/–	42/3	—	39/6
2	1	15	to	2	2	7	42/6	40/–	—	37/–
2	2	8	to	2	2	21	39/–	36/6	—	33/–

The above prices are subject to a deduction of 2/6 per pig marketing expenses in addition to the levies or contributions amounting to 5/- per pig.

These prices do not apply to live pigs outside the above weights, to live pigs intended for breeding, to live boars, live sucked sows, rigs or stags, injured or diseased pigs, live in-pig gilts, or to live pigs sold (on contracts registered with the Board) to curers in Northern Ireland. All live pigs to which the above prices apply can be sold only to the Board.

Light-Weight pigs—c.1.2.0 to c.1.3.14—will be graded according to their suitability for the Wiltshire Trade, and any of these which are not suitable for one or other of the three grades will be purchased at the price for medium weight pigs unsuitable for shipping, viz., 39/6 per cwt.

Pigs over c.1.3.14 and up to c.2.2.21 will be graded according to their suitability for the shipping trade

The Pigs Marketing Board also announced that the standard price (for Grade II pigs of dead weight c.1.0.14 to c.1.2.7) which will be payable for live Wiltshire pigs delivered under direct contracts during the month of December is 56/11 per dead cwt.

Grade I pigs of the above weights will be paid a bonus of 4/- per dead cwt. (60/11) and Grade III pigs will be " cut " 4/- per dead cwt. (52/11).

Grading Statistics.

Table showing the percentages of pig carcases falling within the weight and grade classes indicated during October, 1935 :—

GRADE A.				GRADE B.				GRADE C.				TOTAL.
1	2	3	4	1	2	3	4	1	2	3	4	
17.8	17.4	2.8	.5	11.5	18.7	4.1	1.2	4.0	7.7	1.2	.3	87.2

UNGRADED CARCASES.						
Under Grade A. measurements. U.L.	Over Grade C. measurements. U.F.	Wholly condemned. U.	Wholly black injured or damaged. U.	Overweights underweights boars, sows. X.	Partly black. Y.	
—	2.7	.1	1.7	8.2	.1	12.8
					TOTAL	100%

These figures have been calculated from the purchase and grading statements which the curers furnish to the Ministry. From these statements it has also been ascertained that the volume of trade during the month of October, 1935, showed a further high record since grading was introduced.

THE CATTLE INDUSTRY (EMERGENCY PROVISIONS) ACTS, 1934 AND 1935.

The latest returns received from the Cattle Committee show that the total amount paid to Northern Ireland cattle owners up to and including 30th November, 1935, amounted to £293,635 8s. 9d., and was in respect of 139,120 head of cattle. On the average, therefore, owners received £2 2s. 3d. per head up to that date.

The statement in respect of payments made from the Cattle Fund during the week ended 30th November records that some 1,821 steers, 829 heifers, 61 cow-heifers, of a total weight of 22,570 cwts., realised a total price of £31,109. The average price of each animal was £11 10s. or 27/7 per cwt. The average weight of each animal was 8 cwt. 1 qr. 8 lbs., and the average subsidy obtained for each animal during that week was £2 1s. 7d.

WHEAT ACT, 1932.

Advance Payment to Registered Growers for 1935-36.

The Wheat Commission are making an advance payment to 52,995 registered growers at the end of this week. The payment will be at the rate of 2s. 9d. per cwt., in respect of 11,558,300 cwt., of wheat

vouched for by 70,788 wheat certificates delivered to the Commission between 1st August and 1st November, 1935. The aggregate amount of the advance is approximately £1,589,300. No further payment will be made in respect of these certificates until September, 1936, when such balance as may become due will be paid.

The Commission hope to make advance payments on three more occasions during the current cereal year. The dates by which wheat certificates will have to be delivered to qualify for one of these payments, and the dates of the payments, will be announced in due course.

SALES OF BRITISH WHEAT IN THE FIRST 14 WEEKS OF THE CEREAL YEAR 1935-36.

From calculations based on wheat certificates received from registered growers under the Wheat Act, the total quantity of British wheat marketed throughout the United Kingdom in the first 14 weeks of the present and last two cereal years may be stated, approximately, as follows, in relation to the official estimates of the United Kingdom wheat crop :—

	U.K. Wheat Crop (including seed corn and tailings).	Approx. quantity (including seed corn) marketed by growers.		Proportion of Sales to Total Crop.
	Cwts.	14 weeks ended :	Cwts.	Per Cent.
1933	33,440,000	4 Nov., 1933	11,500,000	34.4
1934	37,375,000	3 ,, 1934	13,550,000	36.2
1935	33,580,000	2 ,, 1935	13,920,000	41.5

SEASONAL FARM NOTES.

The Land.

Ploughing.—The ploughing of stubble ground should be proceeded with at every opportunity when soil conditions are suitable. When the stubbles are not sufficiently dry for this work, the ploughing of lea ground should be undertaken. It is an advantage to use a skim coulter when ploughing lea ground, particularly where there is a mat of old grass on the surface.

Wheat.—Where the sowing of autumn wheat has been delayed owing to weather conditions, this work should be carried out at the earliest opportunity when the ground is in a fit condition. Late sowing reduces the prospects of obtaining a satisfactory crop. See article on Wheat Growing on page 32.

PASTURES.—If not already done, the dressing of grassland with phosphatic manures should be carried out without delay. From 4 to 8 cwt. of high grade basic slag, Gafsa rock phosphate or Semsol per statute acre is a suitable dressing. On the lighter classes of soils, 1 cwt. 30 per cent. potash salts per statute acre should be applied in addition to the phosphatic manure. The potash salts and the phosphate may be mixed together before application.

The land should be thoroughly harrowed before the manures are applied, particularly if there is a mat of old grass or fog on the surface. If this is not done, the full benefits from manuring will not be obtained. The outlay involved in the manuring of grassland is comparatively small when it is spread over the number of years during which the improvement in the grazing is apparent.

FARMYARD MANURE.—During frosty weather, labour can be usefully employed in carting farmyard manure to fields intended for root crops next season. The heap should be made as tidy and as compact as possible to prevent unnecessary waste.

Surplus supplies of farmyard manure can best be used for application to meadow land for cutting. A moderate dressing of from 10 to 15 tons per statute acre is suitable for this purpose.

POTATOES.—The sorting of stocks of potatoes stored in houses should be undertaken when weather conditions prevent ploughing and other work being carried out on the land. The seed for next year's planting should be placed in boxes when sorting is being done. Seed potatoes already in boxes should be examined occasionally and any diseased tubers and " rogues " removed : the colour of the sprout is a valuable aid in the identification of varieties.

Where it is intended to obtain fresh supplies of seed potatoes, orders should be placed early. The vigour and health of a stock of potatoes are of as great importance as variety in obtaining good yields, and growers should endeavour to plant seed from vigorous stocks which showed marked freedom from diseases such as leaf roll and mosaic. Lists giving the names and addresses of growers of stocks of potatoes of a special high degree of freedom, along with those whose stocks have been certified pure by the Ministry, may be obtained free, on request.

Particulars of the results obtained from the potato variety and manurial tests, carried out by the Agricultural Instructors are given on page 43 of this report.

FORESTRY.—The planting of forest trees, either for the provision of shelter belts or for timber production, may be carried out from now onwards when soil conditions are suitable. Moderate-sized plants,

having an abundance of fibrous roots, give best results. The plants should be inserted firmly in the ground, but not too deeply, and steps taken to prevent damage by rabbits or stock. Full particulars regarding suitable species of trees and methods of planting are given in Leaflets Nos. 62 and 77. Farmers are reminded that supplies of trees can be obtained from the Ministy's nurseries at reduced rates. Full particulars will be sent on request.

Attention is directed to the article on the Restoration of Old Hedges on page 47.

Live Stock.

Sheep.—If good lambing results are to be obtained, it is essential to maintain the breeding sheep in a fit condition from now onwards. As a supplement to the grass, a small allowance of a mixture of concentrates such as equal parts oats, decorticated earthnut cake and bran, along with a few turnips daily, should be given. The feeding of too large a quantity of turnips to in-lamb ewes should, however, be avoided, as should the feeding of frosted roots. It is also an advantage to allow the flock access to a supply of rock salt.

In addition to suitable feeding, diseases such as liver fluke and foot-rot should be rigidly guarded against, if profitable results are to be obtained from the flock. Full particulars regarding the control of liver fluke disease are given in Leaflet No. 24, and of the prevention and treatment of foot-rot in Leaflet No. 63. Should any of the animals show signs of lameness, the flock should be carefully examined for foot-rot. If the trouble is neglected and suppuration allowed to set in, the difficulty of effecting a cure is increased. A simple and effective dressing for foot-rot is the application of a solution of 1 lb. copper sulphate or " bluestone " in 1 gallon of water, after the horn part of the hoof has been well pared with a sharp knife.

Cattle.—The importance of providing suitable and economical rations for stock during the winter period may again be stressed. To assist feeders in compounding suitable rations, examples of economical meal mixtures which can be made up on the farm are given on page 42 of this report. The results of an experiment comparing linseed cake and bran for cattle fattening purposes are given on page 40.

Care of Bulls.—Bull owners are reminded of the importance of good feeding and management of breeding bulls throughout the winter so that fruitful results may be obtained. A suitable daily ration for a yearling stock bull in winter consists of about 4 stones of roots, 6 lb. cake and meals and as much good hay as is required. For older bulls, slightly increased quantities may be necessary, but the tendency of older animals to get excessively heavy should not be overlooked, and the feeding regulated accordingly. A mixture of cake and meals that

has given very satisfactory results consists of equal parts crushed oats, palm kernel cake, maize meal and bran.

During the winter, bulls should be groomed daily with a curry comb and brush. Grooming stimulates the circulation of the blood, and aids in food digestion and in the maintenance of good health. A periodical washing of the animal's coat with a non-poisonous disinfectant is also necessary as a preventive against lice and other body parasites. Lice may be destroyed by giving two or three applications at weekly intervals of a 5 per cent. solution (1 part in 20 parts water) of Jeyes' fluid or of a carbolic sheep dip. The derris-soap wash, used for the destruction of warbles (see Leaflet No. 64) is also satisfactory for destroying lice.

Daily exercise in the open air should also be given so that bulls may be kept in a fit, active condition. Further particulars regarding the feeding and management of breeding bulls are given in Leaflet No. 61.

Calves.—Where supplies of separated milk are scarce, suitable substitutes should be fed to calves. It is still a common practice in some districts to rely on patent calf meals as substitutes for milk. While such materials may give satisfactory results, the price at which they are generally offered renders them uneconomical for profitable rearing.

Whole milk is essential for the calf during the first month or six weeks of its life, and no efficient substitute has, as yet, been found to replace milk during this period. Experiments are, however, being conducted to obtain information on suitable substitutes for separated milk after the whole milk stage has been passed. A report on these experiments will be issued when the results are available.

When the calf reaches the stage at which meals can be fed, a small allowance of crushed oats, or a mixture of crushed oats, maize meal and bran gives satisfactory results. Later, when the separated milk is being withdrawn, a little linseed cake can be added to the crushed oats, or to the meal mixture. Useful information relating to calf rearing is given in Leaflet No. 54.

Pigs.—The attention of pig feeders is drawn to the article on page 39 dealing with proprietory "thriving" mixtures. There is no necessity to use such compounds in pig feeding mixtures where the feeding and management are efficient. Particulars regarding the breeding, rearing and fattening of pigs are given in Leaflets Nos. 45 and 35, respectively.

Pig keepers contemplating the erection of new piggeries or the renovation of existing ones are advised to consult Leaflet No. 69, which gives useful information on the subject and includes plans and specifications of suitable piggeries.

Garden and Orchard.

The planting of fruit trees and bushes may be continued whenever the soil is in a suitable condition. It should be borne in mind that firm planting is essential to success.

The pruning of fruit trees and bushes should be undertaken now. In the case of apple trees, it is an advantage to get this done early so that winter spraying for the destruction of insect eggs may be carried out whenever suitable weather prevails. In pruning apple trees, all crossing and crowding branches should be removed as well as those that are dead or badly diseased. Where the fruiting spurs have become long and over-crowded, they should be shortened back and thinned out. In pruning gooseberry, and red and white currant bushes, the young shoots should be thinned out, the superfluous ones being cut back to three or four buds. In the case of black currants, if the old branches were removed after the fruit was gathered, there should be little to do now beyond thinning out the young shoots where these are too numerous.

The spraying of plum and damson trees, and apple trees of the varieties Beauty of Bath, Grenadier and Newton Wonder, should be completed before the middle of January.

Digging, trenching or ridging of vacant ground should be proceeded with whenever the ground is not too wet. When the ground is frozen, advantage should be taken to have the required manure wheeled on to it.

As soon as the seedsman's catalogue comes to hand, a list of the seeds required for the coming season should be made out and the order then despatched without delay.

Poultry.

The attention of readers is again directed to the necessity for giving the breeding flock proper care and management as regards housing, feeding and mating, so that eggs having a high fertility and hatchability may be produced.

In feeding, the aim should be to keep the birds in a fit, healthy condition, rather than to force them to lay too heavily. An article on the feeding of the breeding stock appears on page 34 of this report.

Breeding stock should always have facilities for obtaining adequate exercise. The free range system is the ideal for breeding stock, and, where possible, the birds should be allowed to range at liberty. To encourage this taking place, they should have small portable houses

which are moved frequently to fresh sites on clean pasture. Good feeding and good range are important aids in obtaining satisfactory fertility, good hatching and hardy chicks.

Hatching of eggs from general purpose breeds can be proceeded with from now onwards so that pullets for autumn production and early table chickens may be obtained.

The selection of eggs to be used for hatching should receive particular attention. Eggs which are less than two ounces in weight should not be set, nor should those which are badly shaped or which have thin shells. Eggs for hatching should be set as soon as possible after being laid, as stale eggs seldom give satisfactory hatching results. Hatching eggs which are dirty should on no account be washed, but merely wiped with a damp cloth.

The provision of a patch of cinders outside the door of the house in which the breeding stock are accommodated, and the maintenance of the litter nesting material in a fresh, clean condition, will go a long way in preventing the appearance of soiled and stained eggs. Read Leaflet No. 27.

When purchasing eggs for hatching, an assurance should be obtained that they are from birds which are free from Bacillary White Diarrhoea, otherwise there is a danger of that disease appearing in the chickens, with disastrous results. If possible, the farm from which the eggs are to be obtained should be visited and the stock inspected. The appearance of the birds and the system of feeding and management adopted are often helpful in forecasting the quality of the chickens which will be produced.

Readers are reminded that hatching eggs from blood-tested stock can be obtained from Accredited Poultry Farms and County Poultry Stations. Lists giving the names and addresses of Accredited Poultry Farm owners can be obtained, free, on request, from the Ministry. Lists of holders of Poultry Stations can be obtained from the Secretary of the Committee of Agriculture for the County. The names and addresses of Secretaries of County Committees of Agriculture are given on page 53.

Incubators should be tested to ascertain if they are in perfect working order before hatching commences. Useful hints on the testing and management of incubators are given in an extract from Leaflet No. 20—The Hatching and Rearing of Chickens—on page 37 of this report.

It is important at this season to regulate the proportion of grain to mash given to the laying flock. If excess grain is given early in the day, the birds will not eat sufficient mash, and egg production will fall. A small feed of grain in the morning, scattered in the litter,

provides exercise, and a further allowance in the evening provides food reserves for the birds during the night. A daily feed of wet mash should be given about mid-day, while the dry mash hoppers should be left open from mid-day.

While the majority of live poultry for the Christmas trade will have been marketed by the time these Notes appear, poultry-keepers who market the birds dead are reminded of the importance of fasting the birds for at least 12 hours before killing, to prevent discolouration of the flesh afterwards. Useful hints on the preparation and packing of dead poultry for marketing purposes are given in Leaflet No. 18.

WHEAT GROWING.

The particularly unfavourable weather which has prevailed during the past two months has interfered seriously with the sowing of winter wheat, and it is feared that many farmers who originally intended to sow wheat in autumn or early winter have so far been prevented from doing so. While the chances of obtaining a good crop which will mature and ripen in season are lessened if sowing is delayed too long, it is considered that if winter varieties such as Queen Wilhelmina, Squarehead's Master, Yeoman, etc., are sown during December and early January, there is a reasonable hope of a satisfactory crop, except in the very late districts and on cold, heavy soils. With the possibility of sowing not being practicable until too late, farmers will naturally be considering the advisability of sowing wheat in spring, and if supplies of seed wheat of a winter variety are on hand they will be wondering if such can be sown in spring. The object of this article is to give information on these considerations.

It is distinctly risky to sow winter varieties of wheat after the middle of January, and it is also risky to delay the sowing of spring varieties beyond the end of March. Of the winter varieties, Squarehead's Master is most suitable for sowing in late December or in January, but it must again be pointed out that in late districts even this variety may not give a crop which will ripen properly if sown at that time.

For the reason that winter varieties will not ripen if sown in spring, it is of the utmost importance to ensure that the seed obtained for spring sowing is of a true spring variety. It is not possible, by an examination of samples of wheat, to say with certainty whether they are of a winter or spring variety, and, accordingly, every purchaser of seed wheat for sowing in spring should obtain supplies from a reliable source and take every other precaution to obtain a true spring variety. From what has been said, it is seen that if seed of a winter variety is on hands and cannot be sown in time, it should not be sown in spring

The number of varieties of wheat suitable for sowing in spring is small, and it frequently happens that the quantity of seed available is limited. The best cropper of the spring varieties is Red Marvel, but it should be remembered that this variety will not prove satisfactory unless sown before the middle of March ; if sown later, it is not likely to ripen properly. Red Fife is a spring variety which is suitable only for lighter soils. It produces weak straw and is a poor tillerer. It may be sown during the month of March. Bearded April Red is a spring variety which suits a wider range of soils and districts than the two foregoing varieties. It can be sown up to the first week of April.

The rate of seeding for spring wheats should be somewhat heavier than for winter varieties. In the case of Red Fife, a seeding of 18 stones per statute acre is recommended, and with the others a seeding of from one to two stones per acre more than the rate at which winter wheat is usually sown.

Information regarding the variety which is likely to be most suitable for a particular district, field, or date of sowing can be obtained from the Agricultural Instructor for the district.

REGISTRATION OF ACCREDITED POULTRY FARMS.

With the growth of the poultry keeping industry in Northern Ireland, it has become increasingly important that poultry keepers should maintain the present high standard of their poultry as regards quality and freedom from disease. While it is recognised that importations from cross-Channel sources may be necessary occasionally for the introduction of new blood, it is felt that Northern Ireland breeders can supply poultry-keepers with hatching eggs and birds which, in respect of quality and freedom from disease, compare very favourably with the best obtainable from Great Britain.

In the past, however, prospective purchasers have sometimes had difficulty in ascertaining the names and addresses of poultry breeders whose stock is of the standard desired, and the object of the Ministry in inaugurating the Register of Accredited Farms is to remove this difficulty by making easily available a list of names of reliable breeders in Northern Ireland who can supply hatching eggs and birds from blood-tested stock of a definite standard of quality.

The owners of the farms included in this Register have complied with the conditions for registration laid down in the Ministry's Scheme. These conditions are designed to ensure that the entire adult stock on each farm accepted for registration has been blood-tested, and, so far as can be ascertained, is free from Bacillary White Diarrhoea, and that the breeding stock is in every other respect healthy and consists only of pure-bred poultry of a good standard of quality. Registered

breeders have also undertaken that only stock which has passed the blood-test for B.W.D. will be brought on to their farms, and that pullets which are less than one year old will not be included in the breeding pens. Furthermore, breeders whose farms have been accepted for registration must undertake to have their stock tested once annually and if reactors are found, to have further tests made until it has been clearly established that the flocks are free from disease. Poultry-keepers will, therefore, realise that hatching eggs and stock may be purchased from registered farms with a minimum of risk as regards disease.

It is hoped that the Scheme will prove advantageous to poultry-keepers and poultry-breeders alike, and that all the representative breeders will ultimately participate in it.

The Ministry proposes to issue a fuller printed list at an early date, but copies of the preliminary list may, in the meantime, be obtained on application to the Secretary, Ministry of Agriculture, Stormont, Belfast. Breeders who desire to be considered for inclusion in the proposed new list should send in their applications to the Ministry without delay, and make arrangements to have all their birds blood-tested for Bacillary White Diarrhoea, if this has not already been done. Arrangements for blood-testing should be made directly with the Poultry Instructor.

Forms of application for registration are obtainable from the Ministry or from the Poultry Instructor for the district.

THE FEEDING OF THE POULTRY BREEDING STOCK.

It is feared that some poultry keepers regard the breeding stock in the same way as they do the laying flock, namely, as egg producing machines, and treat all alike in the matter of feeding. This is a grave mistake. Apart from the selection of the birds themselves, there is nothing more important than the feeding of the birds used for breeding. These birds are being given the responsibility of continuing the race, and, accordingly, should receive all the attention possible to enable them to do so in a satisfactory manner. Improper methods of feeding, unsuitable food and incorrect management will not only impair the vigour and stamina of the birds themselves, but will also seriously affect fertility, hatchability and rearability; will even lower the constitution of the birds hatched from their eggs, and leave these birds inherently weak and prone to fall victims to illness and disease.

In the case of breeding stock, the object of the feeder should be to keep the birds in hard, firm condition, and not to stimulate them to lay the highest possible number of eggs. Good hard feeding, combined with adequate exercise on free range, will assist in obtaining the result

desired by all poultry keepers, namely, fertile eggs which hatch well and give chickens which are hardy, vigorous and thrifty.

There is evidence to suggest that poor hatching, with an unduly high proportion of dead-in-shell, is related to the nature of the feeding given the birds several months previously, and also to the shell texture of the eggs. A lack of vitamins in the diet of the breeding stock will likely lead to poor hatches, and, accordingly, it is a wise precaution to add 2 per cent. (1 pint to 4 stones) of a good grade cod-liver oil to the mash mixture during the autumn and winter. Besides supplying vitamins, the cod-liver oil assists indirectly in the assimilation of minerals, and, accordingly, may help in obtaining good texture of shell.

It has been shown that the use of milk in the feeding of the breeding stock is of particular value in obtaining improved fertility and strong germs.

The feeding of breeding stock with a diet which is too stimulating is a mistake. In no case should the proportion of fish meal or other protein supplement exceed 10 per cent. of the meal mixture, and if milk is available, the protein supplement should be omitted altogether.

It is realised that where heavy orders for hatching eggs are received, there is a temptation to encourage the birds to increase production by forcing feeding, and also to mate some pullets, so as to be able to fill the orders. This policy is a short-sighted one and should not be practised by any poultry keeper who wishes to retain his reputation. It is far better, for the individual as well as for the industry generally, to avoid extremes and to take every precaution to distribute only such hatching eggs as will be likely to give satisfaction.

Just as 50 well-selected breeding hens will do more credit to their owner than double that number if the other 50 are of poor quality, so, in the case of eggs for hatching, it is far better to be content with average production than excessive production brought about by irrational methods, such as forcing, either by over stimulating food or by artificial lighting. The value of a hen for breeding should not be judged by the number of eggs she lays, but by the quality of these eggs and by the number and quality of the chickens hatched and reared.

Stinted or incomplete feeding of the breeding birds is as bad as the other extreme. It should be remembered that the nutrition of the chick begins before the egg from which it is hatched is laid, and that, accordingly, if the parents are ill-nourished, the offspring are bound to be affected adversely.

The main principles governing the feeding and management of breeding stock are those which provide for the birds all the nutrients

required for normal health and well-being, and at the same time give them conditions of life which approach as near as possible to those intended by nature. Therefore, adequate housing accommodation and free range on fresh land are the ideal, and are nothing more than the birds' rightful due.

The following are types of meal mixtures which should prove satisfactory for breeding stock :—

(1) 4 parts by weight bran,
2 ,, ,, ,, pollard,
2 ,, ,, ,, maize meal,
1 ,, ,, ,, Sussex ground oats,
1 ,, ,, ,, fish meal, or meat meal.

(2) 3 parts by weight bran,
2 ,, ,, ,, pollard,
2 ,, ,, ,, ground wheat,
2 ,, ,, ,, maize meal,
1 ,, ,, ,, fish meal, or meat meal.

(3) 4 parts by weight bran,
4 ,, ,, ,, pollard,
2 ,, ,, ,, maize meal,
1 ,, ,, ,, fish meal, or meat meal.

In each case 1 pint of cod-liver oil of a good grade should be mixed thoroughly with each 4 stones of mash. If milk is available, the fish meal or meat meal should be omitted.

These mashes may be fed either in the wet or dry state, but for breeding stock wet mash is to be preferred to dry. If dry mash is supplied in addition to the wet mash, the hoppers should be closed during the forenoon and the birds allowed access to the dry mash only for a few hours in the afternoon. One feed of wet mash daily, at mid-day, is adequate.

A grain mixture consisting of equal parts of good oats, cracked maize and wheat should be fed liberally. One feed of grain should be given in the litter in the morning and a second small feed in troughs in the late evening.

Fresh green food and a constant supply of oyster shell and limestone grit are essential, as is a continuous supply of fresh, clean water. On no account should breeding birds be left without fresh green food. If, as is necessary for best results, they are ranging on pasture land, they will obtain a certain amount of their green food requirements themselves, but as during the winter months pasture is deficient in the nutrients supplied by fresh green food, it should be supplemented with cabbage, turnip tops or kale.

ARTIFICIAL HATCHING.

The following extracts from Leaflet No. 20, The Hatching and Rearing of Chickens, give useful information on the management of incubators and should prove useful to poultry keepers at this season.

"A reliable make of incubator should be selected and the instructions supplied by the maker as regards the setting up and running of the machine followed carefully. For the average farm, a machine of 150 egg capacity is the most suitable and economical. The incubator should be placed in a room where the temperature is fairly uniform and where there is good ventilation without draughts, and no vibration. Ventilation should be provided both in the ceiling and at the floor level. A room having windows facing north-west is best. The size of the room should be such as will provide 300 cubic feet of air space for each 150 egg incubator.

"Strict cleanliness in everything connected with hatching is essential, and entails thorough cleaning and disinfection of the incubator before the first hatch, after each hatch comes off, and finally at the end of the hatching season. A convenient and efficient method of fumigating an incubator is to put two tea-spoonfuls of potassium permanganate crystals on a tin saucer placed on the egg tray and to pour over these two tablespoonfuls of formalin. The door of the incubator should be closed immediately. As fumigation by this method is most effective when the temperature of the incubator is at least 60 degrees, the lamp should be lighted for some time prior to fumigation to heat the machine.

"The purchase of second-hand incubators is not recommended, as they may be contaminated with the germs of disease. Provided the maker's instructions are followed and details of management attended to regularly, very little trouble should be experienced in running any of the best-known makes of incubator."

Hints on Running an Incubator.

1. "Make certain that the machine is level; use a spirit level for the purpose of making the machine level. Place each machine so that there will be a free circulation of air all round it.
2. Make sure that the thermometer is registering correctly and that it occupies the proper position in the incubator. In hot air machines the correct position is such that the mercury bulb is just above the eggs. The accuracy of the thermometer can be ascertained by testing it against a clinical thermometer in water heated to about 100 degrees Fahrenheit.
3. See that the capsule is in working order. This may be done rapidly by ascertaining if the capsule expands when it is held between the fingers and thumb in front of a fire, or by seeing if the damper over the lamp is raised after the temperature rises in the incubator.

If the capsule does not expand, or if the damper is not raised, the capsule is not efficient and a new one will be necessary.

4. Use oil of the best quality so as to obtain an even flame, and to avoid a smoky lamp and the deposition of soot in the chimney and heating jacket.

5. Fill the lamp and trim the wick every evening so as to ensure having a steady even flame all night. Inspect the machine and note the temperature about an hour or so after trimming and filling, to ensure that all is right for the night..

6. Run the machine at a temperature of about 101 degrees for some hours before putting in the eggs.

7. Do not put eggs kept in a very cold room direct into a hot incubator ; after putting the eggs in the machine, leave the door open for some time so as to prevent too-rapid heating, which might cause the yolks to break and render the eggs useless for hatching. Do not pile the eggs on top of each other in the incubator.

8. Turn the eggs morning and evening from the second until the nineteenth day of the hatch. It is advisable to remove the tray from the machine to a table each time the eggs are to be turned, as this ensures that all the eggs obtain the same amount of airing during the process of turning.

9. Test the eggs on the ninth day and again on the fifteenth day of the hatch. Remove all infertile and addled eggs.

10. During the last week of the hatching period, the door of the incubator may be left open while the egg tray is removed and the eggs are being turned, provided the temperature of the room is not less than 55 degrees. This ensures that the air in the incubator will be completely changed and a supply of fresh air admitted which is so essential at that stage for the developing germs.

11. In hot air machines, remove one felt after testing the eggs on the ninth day and the other after testing on the fifteenth day.

12. Keep the moisture trays filled with water throughout the hatch. Any fresh water added during the hatch should be heated to about 103 degrees before it is added. Shallow pans, having moistened sand or peat moss litter in them, placed below machines having the ventilation ports beneath the egg trays, assist in providing more moisture and are an aid in obtaining better hatches of strong chicks. The sand of peat moss should be kept moistened with hot water throughout the period of the hatch.

13. Do not open the incubator after the ninteenth day until the hatch is completed, as cold air rushing in at that stage will spoil the hatch. In machines having the nursery drawer beneath the egg

tray, take precautions to prevent the first few chicks hatched from falling into the nursery, as, if this occurs, they are likely to get chilled.

14. Chicks not hatched on the 21st day are not likely to be worth considering, even though they are helped out of the shells, and, accordingly, the hatch should be regarded as complete on the 21st day.

15. When the hatch is complete, the chicks should be placed in the nursery drawer, the egg tray removed, and the temperature of the machine lowered slightly. The chickens may be left in the machine for upwards of 12 hours, and should never be removed until they are all dry and active."

PROPRIETARY "THRIVING MIXTURES" FOR FEEDING PURPOSES.

It has come to the notice of the Ministry that high-priced proprietary feeding condiments are being offered to farmers, and principally to pig-keepers, in increasing numbers recently, and it is understood that their inclusion in pig rations is being advised by the sellers on the grounds that they encourage a better thrive in the pigs. As the prices at which these condiments were quoted appeared to be exorbitant, the Ministry took steps to have an analysis of a few of them made. The results of the analysis justified the assumption that the prices quoted were out of all proportion to their feeding value. Their protein content corresponded approximately to the protein content of pollards, but the prices at which they were offered were from 4 to 8 times greater than that of good quality pollards. Moreover, the oil content was excessively high, and on this account alone the materials are considered to be unsuitable for pig feeding purposes, as foods with a high oil content are liable to produce bacon with a soft, flabby fat.

It is realised that some of these commodities were offered for use as a supplement to the rations fed, and the analysis showed that they contained spices, cod-liver oil, etc., which presumably were added to promote quick growth and good thriving. Where, however, the ordinary ration fed is suitable and properly balanced and the housing and management of the pigs are efficient, there is no necessity to increase the costs of production by feeding such supplements.

Accordingly, farmers and stock feeders are warned against purchasing feeding materials which are offered at prices which cannot, under any consideration, justify their use.

COMPARISON OF LINSEED CAKE AND BRAN IN RATIONS FOR FATTENING CATTLE.

The value of linseed cake in rations for cattle fattening purposes has long been recognised, particularly from the point of view of producing good finish or "bloom"—a factor which often results in a higher price being obtained. Usually, however, the price of good linseed cake, based on the protein content, is appreciably higher than that at which protein can be obtained in other protein-supplying foods which are suitable for fattening cattle. This being so, the question of the use of linseed cake being economical, arises, particularly when beef values are comparatively low, and information regarding possible substitutes for linseed cake would be of distinct usefulness to the cattle feeder.

Of late years the value of bran in rations for practically all kinds of stock is being realised more than formerly, and in the case of fattening cattle the inclusion of bran in the ration has led to very satisfactory results being obtained. For example, in experiments carried out in Scotland*, better daily live weight gains were obtained at a cheaper cost from a ration composed of maize meal, barley meal, and bran than from one composed of maize meal, barley meal and linseed cake. Moreover, "with regard to appearance, throughout the latter part of the test the bran group looked better than the others, being firmer to handle and being the group invariably commented on by visitors as being the best cattle." In this experiment the bran ration consisted of 8 parts maize meal, 8 parts barley meal, and 16 parts bran, while the linseed cake ration was composed of 8 parts maize meal, 8 parts barley meal, and 9.2 parts linseed cake meal. In this connection, it is of interest to note that from the results of practical feeding tests, the Scandinavian Feed Unit System gives 11 lb. of bran as equivalent to 9 lb. of linseed cake. There are, therefore, definite indications from the results of comparative feeding tests that bran has a feeding value which is greater than is shown by its chemical composition.

To gain further information regarding the comparative value of bran and linseed cake in cattle fattening rations, the Ministry, four years ago, devised a feeding experiment to be carried out under the supervision of the Agricultural Instructors, and the summary of the results of these experiments at the various centres are reviewed in this article. The guiding principle in determining the respective proportions of bran and of linseed cake to be added to the rations was the current prices of these two foods and not their comparative starch equivalents or their comparative food value as indicated by the Scandinavian Feed Unit System. Thus, at the time the experiment was arranged, the cost of $2\frac{1}{4}$ parts of red bran was approximately equal to the cost of $1\frac{1}{2}$ parts of home made linseed cake, and, accordingly, the basal ration, which consisted of 7 parts by weight crushed oats, 3 parts maize meal,

* Scottish Journal of Agriculture Vol. XV. 1. Jan., 1932, p. 63.

and 1 part decorticated earthnut cake, was supplemented with $2\frac{1}{4}$ parts of red bran for one group of cattle and with $1\frac{1}{2}$ parts of linseed cake for the other group.

The cattle for each experiment were divided as equally as possible as regards initial weight, age and sex, into two groups, and both groups received the same management and were housed under similar conditions. The experiment was conducted at 12 centres, and the average results are summarised in the following table :—

	Bran Group.	Linseed Cake Group.
Total number of cattle fed	48	48
Average weight per head at start of test ..	6c. 3qr. 19lb.	6c. 3qr. 19lb.
Average live weight gain per head..	1c. 3qr. 27lb.	2c. 0qr. 3lb.
Average daily live weight gain	1.37lb.	1.40lb.
Average amount of meal required to produce 1lb. live weight increase	4.85lb.	4.80lb.
Average cost of meals required to produce 1cwt. live weight increase	£1 8 8	£1 9 7
Average selling price per live weight cwt. ..	£1 14 4	£1 14 1

It will be observed that the average results are remarkably uniform as between the two groups, suggesting that with the basal ration used in the experiments $2\frac{1}{4}$ parts of red bran can replace successfully $1\frac{1}{2}$ parts of linseed cake. The average cost of the meal and cake mixture required to produce 1 cwt. live weight increase was slightly greater in the case of the linseed cake group than in the bran group, but this was due to the fact that these costs were calculated from the prices actually paid for the foods at each farm, and that at certain centres the cost of $1\frac{1}{2}$ parts of linseed cake was greater than the cost of $2\frac{1}{4}$ parts of bran.

The results of this experiment indicate that in conjunction with a suitable basal ration $1\frac{1}{2}$ parts of red bran can replace 1 part of linseed cake. In other words, it would appear that the proportion of efficiency between linseed cake and bran is in the ratio of 1 : $1\frac{1}{2}$. It, therefore, seems logical to conclude that if the price of good linseed cake is more than $1\frac{1}{2}$ times higher than that of red bran, it would be more economical to feed bran than linseed cake, even though the proportion of bran required is higher. If, on the other hand, the current price of linseed cake is less than $1\frac{1}{2}$ times that of bran, then the use of linseed cake in preference to bran would be justified.

The detailed results of the individual experiments will be found in the annual reports published by County Committees of Agriculture, which are obtainable, free, from the Secretaries of these bodies.

WINTER RATIONS FOR LIVE STOCK.

At the prices of feeding stuffs given in the Table on page 57, the following are examples of economical and satisfactory meal mixtures for feeding to different classes of stock during the winter period :—

1. Dairy Cows.

3 part(s) by weight of crushed oats,
2 ,, ,, ,, ,, maize meal,
1 ,, ,, ,, ,, red bran,
2 ,, ,, ,, ,, decorticated earthnut cake.
(or 2½ ,, ,, ,, decorticated cotton cake.)

2. Fattening Cattle.

2 part(s) by weight of crushed oats,
2 ,, ,, ,, ,, maize meal ,
1 ,, ,, ,, ,, decorticated earthnut cake.

3. Young Growing Cattle.

2 part(s) by weight of crushed oats,
1 ,, ,, ,, ,, maize meal,
1 ,, ,, , , decorticated earthnut cake.

4. Fattening Pigs.

3 part(s) by weight of maize meal,
3 ,, ,, ,, ,, barley meal,
2 ,, ,, ,, ,, brown pollards ,
1 ,, ,, ,, ,, red bran,

with 2 or 3 pints separated milk or buttermilk per head daily. If milk is not available, 1 part of extracted soya bean meal should be added to the mixture given above and 3 lb. of a mineral mixture to each cwt. of meal mixture.

5. Sows with Litters.

3 part(s) by weight of maize meal,
1 ,, ,, ,, ,, flaked maize,
2½ ,, ,, ,, ,, red bran,
3 ,, ,, ,, ,, brown pollards,
1½ ,, ,, ,, ,, extracted soya bean meal.

3 lb. mineral mixture to each cwt. of meal mixture. If separated milk or buttermilk is available, the soya bean meal may be omitted.

6. In-pig Sows.

4 part(s) by weight of maize meal,
4 ,, ,, ,, ,, brown pollards,
2 ,, ,, ,, ,, red bran.

The addition of mineral mixtures to the above rations is essential except where milk is being fed in pig mixtures. A suitable mineral mixture for dairy cows is equal parts by weight ground limestone or chalk, steamed bone flour and common salt, fed at the rate of 3 lb. per cwt. of meal mixture. For other cattle and for pigs, the mineral mixture recommended is 3 parts by weight ground limestone or chalk and 1 part by weight common salt, fed at the rate of 2 lb. per cwt. of meal mixture in the case of cattle and fattening pigs, and 3 lb. per cwt. of meals in the case of sows suckling pigs.

It will be noted that red bran and brown pollards are specified in the rations. Usually red wheat offals are offered at cheaper rates than the white grades, and, provided the fibre content of the former is not excessively high, there is not much difference in feeding value, and, accordingly, it is more economic to use the cheaper grades.

RESULTS OF POTATO EXPERIMENTS.

Variety Tests.

To ascertain the cropping capabilities and suitability of some of the newer varieties of potatoes as compared with some of the older and proved kinds, variety experiments were again arranged during the past season by the Agricultural Instructors. Two series of tests were carried out, one with early, and the other with main crop varieties.

Early Varieties.—Six early varieties were tested at 9 centres, and the average results obtained from these centres are given in the following table; for comparison purposes the average total yields obtained from last year's trials at 11 centres are also included in the table :—

Variety.	1935. (9 centres)								1934. (11 centres)		Average total yield (20 centres) 1934 and 1935)	
	Ware		Seed		Chats		Total		Total Yield			
	T.	C.	T.	C.	T.	C.	T.	C.	T.	C.	T.	C.
Dunbar Yeoman	8	18	1	10	1	8	11	16	12	11	12	4
Arran Pilot ..	9	7	1	7	1	0	11	14	11	5	11	9
British Queen ..	7	17	2	3	1	6	11	6	11	3	11	4
Ballydoon ..	8	18	1	8	–	17	11	4	11	2	11	3
Di Vernon ..	8	4	1	17	1	7	11	8	10	10	10	18
May Queen ..	8	17	1	11	1	1	11	8	9	4	10	4

It will be observed that Dunbar Yeoman gave the highest average total yield in both years' tests. This is a comparatively new, first early variety, with tubers having lemon-coloured flesh and of good eating quality. British Queen and Ballydoon gave almost similar average total yields ; the latter is an immune variety which can be used to replace the non-immune British Queen variety. It matures earlier than British Queen.

Main Crop Varieties.—The tests with main crop varieties were carried out with seven varieties at 11 centres, and the average results obtained, together with the average total yields obtained in last year's trials, are as follows :—

Variety.	1935. (11 centres)								1934. (10 centres)		Average total yield (21 centres) 1934 and 1935	
	Ware		Seed		Chats		Total		Average Total Yield			
	T.	C.	T.	C.	T.	C.	T.	C.	T.	C.	T.	C.
Arran Cairn ..	14	13	2	12	1	4	18	9	16	8	17	9
Majestic ..	14	16	2	1	1	0	17	17	16	18	17	8
Up-to-Date ..	12	10	3	3	2	0	17	13	15	5	16	10
Arran Consul ..	13	13	1	19	1	6	16	18	15	13	16	6
Dunbar Cavalier	11	16	2	14	1	7	15	17	13	10	14	15
Kerr's Pink ..	11	16	2	19	1	4	15	17	—	—	—	—
Arran Victory ..	12	7	2	10	0	12	15	10	14	12	15	1

T.=Tons. C.=Cwts.

It will be seen that Arran Cairn and Majestic gave the heaviest average yields in both years' tests, and a practically identical total yield when the average of the two years' tests is taken. Arran Cairn is an immune variety of Up-to-Date type, with strong, vigorous foliage, and is late ripening. This variety is fairly resistant to blight, and in this respect is much superior to Up-to-Date.

Further information and descriptive notes relating to the newer varieties which were included in these trials are given in Leaflet No. 7, which can be obtained free, on request.

Manurial Tests.

The manurial test was designed primarily to determine if the individual manures comprising the standard mixture for potatoes, namely 1 cwt. sulphate of ammonia, 4 cwt. superphosphate, and 1 cwt. muriate of potash, could be mixed and stored some time prior to use without impairing the efficiency of the mixture. Two additional plots

were included, one manured with Imperial Chemical Industries No. 5 concentrated fertiliser at a rate (3 cwt. per statute acre) which supplied approximately similar amounts of nitrogen, phosphate, and potash as were supplied by 6 cwt. per acre of the standard mixture, and the other with a ready mixed special potato manure having the same analysis as the standard mixture. All plots received farmyard manure at the same rate. The average results obtained, along with the average total yields in the previous year's trials, were as follows :—

Manurial Treatment.	1935. (7 centres)								1934. (11 centres)			
	Ware		Seed		Chats		Total		Total yield		Average total yield (18) centres 1934 and 1935.	
	T.	C.	T.	C.	T.	C.	T.	C.	T.	C.	T.	C.
Manured with standard mixture, mixed on day of application, at the rate of 6 cwt. per statute acre	13	14	1	18	1	3	16	15	14	5	15	4
Manured with standard mixture, mixed at least 3 weeks prior to application, at the rate of 6 cwt. per statute acre	13	11	1	19	1	1	16	11	14	3	15	2
Manured with Imperial Chemical Industries No. 5 concentrated fertiliser at the rate of 3 cwt. per statute acre	13	0	1	16	1	0	15	6	14	4	14	16
Manured with special potato manure of same analysis as standard mixture, at the rate of 6 cwt. per statute acre ..	12	19	1	19	1	0	15	18	14	3	14	17

T=Tons. C=Cwt.

The results indicate that the mixing of the standard mixture some time previous to application did not in any way impair its efficiency. This means that valuable time, just prior to and after planting work begins, may be saved by having the manures mixed some time previously. It has been found that, after a week or so following mixing, the mixture is in good condition for application, and remains so, if stored under reasonably suitable conditions.

It will also be observed from the results that the standard mixture has produced yields which are superior to those produced by both the concentrated fertiliser and the special potato manure in the past season's tests and a greater average total yield in both year's trials. These special manures, although giving satisfactory yields, are usually appreciably higher in price than that at which the standard mixture

can be made up at home, and there is thus an obvious saving in outlay when the manurial mixture for potatoes is made up on the farm.

Full details of all these experiments and of others carried out by the Agricultural Instructors will be published in the annual reports of the various County Committees of Agriculture. These reports will be available early in 1936, and copies can be obtained free of charge from the Secretary, County Committee of Agriculture. The names and addresses of the Secretaries are given on page 53.

POISONOUS WATERSIDE WEEDS.

Advantage is commonly taken of the relatively slack winter period to clean out ditches and watercourses. Very often when this is done, the earth or mud dug from the edges of the stream is dumped on the bank. In many cases this is a perfectly good practice, but it may be very dangerous if the dumped material contains the roots of poisonous weeds. Several cases have been investigated by the Ministry during the past year in which stock were found to have been poisoned by eating weed roots thus thrown out of a water-course. Such roots are often attractive in appearance and smell, especially at a season when other herbage is relatively scarce.

The greatest care should be taken to ensure that stock is not exposed to danger in this way. If there is any doubt whatever about the nature of the weeds concerned, they should be picked out of the dump and either burned or buried deeply. If this cannot be done, the refuse should not be dumped where stock can approach it ; and it must be borne in mind that many of the roots, wherever dumped, if they remain mixed with soil or mud, are likely to grow, so that even though carried away from the stream they may originate a fresh colony of dangerous plants elsewhere.

The most important group of poisonous water-side plants is the parsnip family. They are characterized by umbrella-like heads of (usually white) flowers, and their leaves are generally divided up like an ash leaf, or still more finely divided like a carrot leaf. The roots in the poisonous types are generally fleshy like a parsnip, or consist of bunches of tubers like those of a dahlia, and, when broken across, they often smell aromatic or " parsnippy."

If any doubt arises as to the identity and nature of a weed, a fresh specimen should at once be submitted to the County Instructor in Agriculture for advice, and if an animal is suspected to have died from poisoning, it is important that no delay whatever should take place in submitting it to examination by a veterinary surgeon. The passage of a day or two after death before examination, frequently makes certainty as to cause of death impossible.

RESTORATION OF OLD HEDGES.

A hedge forms a very useful farm fence so long as it is kept in good condition for it not only acts as an efficient fence, but also affords considerable shelter to stock.

When hedges are not trimmed annually and given proper attention gaps and holes appear and the hedges become practically useless as fences against sheep and cattle. With proper treatment, however, such hedges can be restored.

Over-grown, patchy hedges are often hacked down leaving the old stumps from one to two feet high. This practice is to be condemned as there is no effective fence for some years and no provision is made for filling old gaps or openings. The proper treatment for such hedges is what is known as "laying," that is the bending and wattling of selected young shoots horizontally along the line of the hedge. "Laying" can be carried out now or at any convenient time before the end of March. As a first step all undesirable plants, such as Bramble, Dog Rose, Honeysuckle, etc., and all dead or decaying stumps should be cut out, the sheugh cleaned out, and the ditch repaired if necessary.

The young growths for "laying" along the hedge should be chosen from the most vigorous stools and should be straight and as long as possible. Shoots arising from near the base of the stool are to be preferred. Others not required should be cut out leaving stumps from 2 to 3 feet high. It is not advisable, however, to cut out too many of the young shoots in the first instance as any surplus can easily be removed when the "laying" has been completed.

If there are gaps or holes in the hedge, or if the stumps are more than 2 feet apart, stakes, cut from the surplus material from the hedge, should be driven into the ditch so as to have a continuous row of stumps of stakes not more than 2 feet apart. The selected young shoots should then be cut halfway through with an upward cut whenever possible, bent downwards and wattled or interlaced between the stumps. It is a mistake to put in too much material as sufficient room must be left to allow for young growth.

When the "laying" has been completed the smaller protruding twigs should be trimmed, and if there is any tendency on the part of the "laid" shoots to spring upwards they may be secured by interweaving thin hazel or sally rods between the tops of the stakes. This is preferable to the practice of placing sods on the shoots as the rods add additional strength to the top of the hedge.

Once a hedge has been properly "laid" it can be kept in good condition for many years by annual trimming, which should be carried out with a proper, well-sharpened hedge knife, and not with a hook or a slasher. All cutting should be done from the bottom upwards with

an upward swing of the knife, and on no account with a downward stroke. The ultimate object of the trimming should be to form a wedge-shaped hedge, wide at the foot and narrow at the top.

EGG-LAYING TESTS.

A well attended meeting of poultry-breeders interested in the Stormont Egg-Laying Tests was held on Friday afternoon, in the Minor Hall, Y.M.C.A., Wellington Place, Belfast. The Chair was taken by Dr. G. S. Robertson, Secretary to the Ministry of Agriculture, and the cups and medals won at the last Test were presented by Lady Dunleath. Mr. W. Hamnett, a well-known judge and extensive breeder of utility poultry, gave a very interesting and instructive address on the selection and management of breeding stock.

Referring to the last Test Dr. Robertson stated that it was gratifying that there had been an increase in egg production and a decrease in mortality, the mortality figure comparing very favourably with that of Tests in Great Britain. The figure, however, was too high, and he urged poultry-breeders to co-operate with the Ministry in their efforts to reduce mortality. It could be done if breeders would take fully to heart and put into practice the advice and guidance contained in the report on the Test, and give the most earnest attention to the selection of their breeding stock.

Continuing, Dr. Robertson referred to the fact that in the last Test there were 98 birds which had been bred at the Pedigree Breeding Station at Hillsborough. Poultry breeders would be interested to observe that about fifty per cent. of these birds qualified for and were awarded copper rings. Their egg production was higher than home-bred birds in the Test, and the rate of mortality was much lower. He thought that everybody would agree that these results were very gratifying, and he hoped that poultry-breeders would be encouraged to continue their efforts to bring their flocks up to a comparable standard. He was sure they would all greatly appreciate the opportunity for hearing such an eminent authority on poultry problems as Mr. Hamnett.

Mr. Hamnett, in his address, referred to the fact that Northern Ireland poultry compared very favourably with that in Great Britain, and indicated steps that should be taken to maintain and improve the quality of breeding stock. He suggested that too great care could not be taken in the culling and selection of birds for breeding purposes. Northern Ireland breeders were fortunate in having their own breeding station where selected high-class birds could be properly mated, and emphasised the importance of the development of pedigree work.

The presentation of prizes was then made by Lady Dunleath, who was enthusiastically received by the audience.

The Ministry's Silver Cup for the best pen of pullets in the Test was won by Mrs. R. J. Beck, Cleigh, Corbet, Banbridge, whose pen of White Wyandottes laid 1,383 eggs during the Test, value £7 0s. 9d.

The Challenge Cup offered for competition by the Scientific Poultry Breeders' Association for the pen laying eggs of the highest market value during the winter period was won by Mr. R. A. Copeland, Blackscull, Dromore, County Down, and the John Waters' Perpetual Memorial Challenge Trophy, offered by the Irish Fanciers' Association for competition among its members, was awarded to Mr. T. J. McMillan, Crossgar, County Down, whose pen of White Leghorns laid 1,327 eggs, value £5 14s. 6d.

The Silver Medal for the best pullet in the Test was won by Mr. J. C. Stewart, Balloo, Killinchy, County Down, one of whose White Wyandotte pullets laid 289 eggs, value £1 10s. 9¼d.

The winners of the Bronze Medals for the best pullet in each Section were respectively :—

Mr. J. Waugh, Ballyrickard, Kilwaughter, Co. Antrim, (Section 2).
Mrs. J. Warnock, Tower View, Rathgael, Bangor, Co. Down, (Section 3).
Mrs. H. W. Merrick, Agivey House, Aghadowey, Co. Londonderry (Section 4).
Mrs. R. McDowell, Glenford, Glenoe, Larne, Co. Antrim (Section 5 (a)).
Mrs. R. Gillespie, Drumlester, Sixmilecross, Co. Tyrone (Section 5 (b)).
Miss S. McKee, Ardmillan House, Killinchy, Co. Down (Section 5 (c)).

The four Silver Medals offered by the Northern Ireland Utility Poultry Society for competition amongst members of the Society were won by :—

Mrs. E. Johnston, Craigboy, Donaghadee, Co. Down (White Wyandottes).
Mr. T. J. McMillan, Crossgar, Co. Down (White Leghorns).
Mrs. W. H. Nesbitt, Ballybannon, Annsborough (Rhode Island Reds).
Mrs. H. W. Merrick, Agivery House, Aghadowey, Co. Londonderry (Light Sussex).

A comprehensive report on the Test has been printed, and copies may be had on application to the Ministry of Agriculture, Stormont, Belfast. Extracts from the report follows.

REPORT ON THIRTEENTH EGG-LAYING TEST AT STORMONT

This report is now available and besides containing a review of the test and of the results, it deals with matters of importance to every poultry-breeder. The following extracts from it are reproduced in the hope that they will be of interest and value :—

" As mortality amongst pullets is largely, if not chiefly, due to faulty methods of breeding, and particularly, the use of both males and females of inferior type with nothing but egg records to commend them, a basic principle in any effort to reduce mortality is suitable breeding stock. Every effort should, therefore, be made to stamp out the small, fine-boned type of bird which is so often found in flocks bred for egg production. The large-bodied bird invariably has better resistance to disease than the small one, usually lays a larger egg; and is, therefore, a more desirable type of bird from which to breed.

" Breeders of White Leghorns must pay more attention to size and stamina in the breeding stock if the breed is to be saved from total extinction. The White Leghorn, being naturally a comparatively fine-boned bird, any general system of selecting breeding stock solely on egg records, or on the equally risky basis of fine pelvic bones, is bound to lead to deterioration in type and vigour.

" . . . . . reference must be made to the fact that there are still strains of Light Sussex where the birds are altogether too small and too fine in bone. Such birds are a hindrance to progress in the case of any breed, but particularly so with Light Sussex where good body size is a tradition for which the breed is famed. Breeders would be well advised to discard all small-bodied birds, no matter what their egg records may be.

" If this percentage (of deaths from ovarian derangements) is to be lowered, poultry-breeders will have to institute a rigorous system of culling, so that only well-developed birds with a good constitution are used for breeding purposes. Breeding and selection for constitution and stamina are the only foundation on which a successful programme of breeding for egg production can be built. Breeding for egg-production should never take precedence over breeding for stamina.

" It should be clearly understood by breeders that ovarian trouble, resulting in peritonitis and death, is not a disease, but the effect of a weakness which is liable to be passed on to the offspring, and this makes it all the more necessary for poultry-breeders to eliminate from the breeding pen any bird showing even a suspicion of constitutional debility.

" It is not sufficient to select the biggest and most vigorous hens in a flock and mate them to a cockerel from a heavy laying strain : the cockerels also must possess plenty of stamina and be of good size and type.

" The question of mortality amongst laying pullets is one which is now receiving the attention it deserves and no apology is necessary for referring to it again in this report. In the past it was customary for advisers to stress the necessity of having early-hatched pullets if profits were to be made from egg-production, but now the factor governing profit and loss is mainly linked up with the rate of mortality amongst the birds. There can be no doubt that mortality is largely due to defective breeding stock and to wrong methods of mating. Accordingly, any efforts which are to be made to lower the mortality rate in pullets must be founded on sane breeding methods and sound breeding stock. No system of rearing, of housing, of feeding or of management will implant constitutional vigour and stamina in a bird, and any attempt by such means to make good the defects resulting from faulty breeding stock is bound to be a failure.

" Selecting breeding stock on the basis of egg records alone has undoubtedly been the cause of countless failures in the past, and such a system should not be countenanced by any poultry-breeder.

" There cannot be vigour and stamina in the absence of good size and of good bone. Most of the pullets which die from ovarian derangements are of the small, weedy type, having very fine bone. Such birds invariably have fine, flexible pelvic bones, and judged on the standards laid down for the selection of good layers by handling, would score high. It is possible, if not probable, that these birds were selected solely by handling, and it is suggested that this practice is being abused, inasmuch as it is being used as the main criterion on which to select pullets. Just as selection on the basis of egg records alone is condemned, so is selection on the basis of the quality of the pelvic bones. If the pelvic bones are fine and pliable (the joy of the handler), the quality of the bone generally will be fine and the constitution likely to be unable to resist the strain of egg production. The quality of the pelvic bones is not a satisfactory standard by which to select birds which have constitutional vigour and stamina and which will live long.

" Breeding from pullets has been condemned, and the condemnation is justified on the score that pullet breeding leads to a deterioration in size, vigour and stamina. The use of mature hens for breeding will not give maximum results unless the male birds are also mature and from long-lived families. The mortality amongst male birds on farms is heavier than is usually realised, and the use of short-lived males is bound to result in the production of a short-lived race of poultry.

"The only safe guide to the breeding worth of a male is the kind of progeny he produces, and, accordingly, in any breeding programme designed to improve the average egg production of the flock, it is essential to use sires which have proved themselves to be capable of breeding good-laying pullets. What is wanted in a sire is his record of transmitting ability instead of the egg-producing ability of his ancestors."

Copies of the report may be obtained, free of charge, from the Ministry, on application being made to the Secretary, Ministry of Agriculture, Stormont, Belfast.

ANNOUNCEMENTS AND REMINDERS.

Copies of the Leaflets referred to in Farm Notes may be obtained free from the Ministry, on request.

The inspections of bulls, born during the months of January, February, March, April, May and June, 1935, will be carried out during January next. Applications for inspection for licences should be lodged with the Ministry not later than the 31st December. Application forms may be obtained from the Ministry or from any Police Barracks.

Inspections of boars, farrowed in July, August and September, 1935, for licences will also be carried out early in January. Applications for inspections should be sent to the Ministry as soon as possible, but not later than 31st December next.

The next session at the Ulster Dairy School, Cookstown, and at the North-West School, Strabane, begins on the 2nd January, 1936. Particulars regarding the courses of instruction provided at these Schools are given in the prospectuses, copies of which may be had from the Ministry.

Lists giving the names and addresses of owners of Accredited Poultry Farms have now been published and can be obtained, free, on request, from the Ministry. Hatching eggs from stock which have passed the test for Bacillary White Diarrhoea can be obtained from these farms.

Lists of holders of County Poultry Stations are also available now and can be obtained from the Secretary, County Committee of Agriculture. The birds on these stations have also all passed the test for Bacillary White Diarrhoea.

Copies of the detailed final report of the last laying test at Stormont will be sent free to those applying for them. This report contains useful information on breeding problems, in addition to full particulars of the performances of the birds which competed in the test. An article giving extracts from the report appears on page 55.

The scheme for the supply of forest trees from the Ministry's nurseries to farmers at reduced rates is again in operation. Full particulars will be sent on request.

Names and Addresses of Secretaries of County Committees of Agriculture.

Antrim	A. B. Clarke, B.A., County Courthouse, Crumlin Road, Belfast.
Armagh	S. Jordan, B.Agr., Agricultural Organiser, 4, College Street, Armagh.
Down	J. L. McWhinney, A.R.C.Sc.I., Agricultural Organiser, Northern Bank Chambers, May Street, Belfast.
Fermanagh ..	W. T. McClintock, B.Agr., Agricultural Organiser, Courthouse, Enniskillen.
Londonderry ..	T. K. Caldwell, Courthouse, Coleraine.
Tyrone	W. Walsh, Courthouse, Omagh.

Lectures.

The following lectures have been arranged by County Committees of Agriculture : –

County.	Day and Date.	Centre.	Time.	Subject.
Armagh	Wed., 14th Dec.	Drumsallen P.E. School	p.m. 7.30	The Feeding of Farm Stock.
Do.	Mon., 13th Jan.	Crossdall P.E. School	7.30	Do.
Down	Thurs., 19th Dec.	Moira Orange Hall	7.30	Poultry-Keeping.
Do.	Do. 2nd Jan.	G.T. Hall, Newtownards	8. 0	Do.
Londonderry	Mon., 16th Dec.	Muldonagh National Hall	7. 0	Do.
Do.	Wed., 18th Dec.	Killybready P.E. School	7. 0	Do.
Do.	Thurs., 19th Dec.	Gallalvin P.E. School	7. 0	Do.

The following agricultural talks will be given from the Belfast Station of the British Broadcasting Corporation : –

Day and Date.	Time.	Speaker.	Title.
Friday, 20th Dec.	7.15 to 7.30 p.m.	J. McAllan, M.A., M.R.C.V.S., Chief Veterinary Inspector, Ministry of Agriculture	The Veterinary Officer and the Farmer.
Friday, 3rd Jan.	7. 0 to 7.15 p.m.	J. Prentice, B.Sc., B. Agr., Queen's University.	Poultry Feeding Experiments : The Chicken.

TRAINING OF GIRLS IN POULTRY-KEEPING, DAIRYING, &c.

The Ministry has two schools, the North West School and the Ulster Dairy School, which provide for the training of girls.

The North West School is situated at Strabane, County Tyrone, and has accommodation for 24 pupils. The courses of instruction are designed to afford a sound practical training in modern economical methods of dairying, poultry-keeping and rural housewifery. Admission is by scholarship given by the County Committees of Agriculture, which includes free tuition, board and residence. Applications for such scholarships should be made to the Secretary of the Committee of Agriculture for the county in which the applicant resides.

The Ulster Dairy School is situated at Loughry, Cookstown, County Tyrone, and has accommodation for 50 pupils. It provides the most up-to-date training in all matters connected with women's sphere in farm life, including poultry-keeping, dairying and rural housewifery. Girls who show special ability are selected for a further period of training with a view to qualifying as Instructors under the Schemes of Agricultural Education. The fees, for the ordinary school course of three terms, are only £3 : 3 : 0 per term.

Prospectuses of both Schools, containing application forms, can be obtained free from the Ministry on request.

The next Session at both schools will commence on 2nd January, 1936, and applications for admission, which are dealt with in order of receipt, should be submitted as early as possible.

MILK BOTTLES.

The following statement, which is of interest to purchasers of milk, and particularly to those who purchase milk in bottles, has been broadcast by the British Broadcasting Corporation at the request of the Ministry.

It has been brought to the notice of the Ministry that many persons fail to return the bottles in which milk is delivered to them by their suppliers. The result of this is that the losses incurred by some suppliers are considerable and their distributive costs proportionately increased. The Ministry desires to impress upon the general public that since the retail prices of milk depend to a large extent upon the distributive costs of those who deliver it, it is in the consumer's own interest to do anything in his power to keep these costs at as low a level as possible. One simple and practical way in which the consumer can help to achieve this object is to see to it that any bottles in which milk is supplied to him are returned punctually to their owners.

The Ministry, accordingly, appeals to all those who purchase bottled milk to do their part in ensuring that the costs of milk distribution are not unnecessarily increased by reason of their failure to return the bottles in which their milk is delivered to them.

FOURTEENTH EGG LAYING TEST AT STORMONT.

The second period of four weeks ended on the 29th November, 1935, and particulars of the leading pens in each section are given hereunder. The average egg production during the period, based on the number of birds originally under test, was 12.4 eggs per bird, as compared with 11.9 for the previous period.

There was a definite improvement in egg size, and in connection with the numbers of eggs of the different grades appearing in the table which follows, it should be remembered that the minimum weight of a first grade egg from the start of the test is now 2 oz.

SECTION 1.—WHITE WYANDOTTES (Open).

Position.	Name and Address of Owner.	Number of Eggs Laid.			Test Score Value.
		Super Grade.	1st Grade.	Below 1st Grade.	
1	Mrs. D. C. Gamble, Roan Lodge, Coalisland, Co. Tyrone.	94	102	22	196
2	Mrs. J. R. Jackson, Fortview, Coleraine, Co. Londonderry.	115	70	20	185
3	Mr. J. Hall, Lilac Cottage, Donacloney, Co. Down.	87	96	11	183
SECTION 2.—WHITE LEGHORNS (Open).					
1	Mrs. F. R. Browne, Lakeview, Enniskillen, Co. Fermanagh.	12	104	89	116
2	Mr. J. Waugh, Ballyrickard, Kilwaugher, Co. Antrim.	22	75	75	97
3	Mr. W. Gunning, Inglenook, Ballywalter, Co. Down.	28	59	70	87
SECTION 3.—RHODE ISLAND REDS (Open).					
1	Mrs. J. McNeill, Drains Bay, Larne, Co. Antrim.	143	75	21	218
2	Mrs. E. R. Dunwoody, Benmore, Islandmagee, Co. Antrim.	134	71	16	205
3	Langford Lodge Poultry Farm, Crumlin, Co. Antrim.	99	100	3	199
SECTION 4.—ANY OTHER PURE BREED.					
1	Mrs. H. W. Merrick, Agivey House, Aghadowey, Co. Londonderry.	76	80	23	156
2	Mrs. T. J. McLaren, Ballykeel, Sixmilecross, Co. Tyrone.	32	87	37	119
3	Miss C. C. Meara, Coalisland, Co. Tyrone. (All Light Sussex.)	13	83	28	96

SECTION 5 (a).—WHITE WYANDOTTES (STATION-HOLDERS).

Position.	Name and Address of Owner.	Number of Eggs Laid.			Test Score Value.
		Super Grade.	1st Grade	Below 1st Grade.	
1	Mrs. R. McCullough, Bruslee, Ballyclare, Co. Antrim.	116	110	29	226
2	Mrs. M. Rodgers, Ballyginney, Dundrum, Co. Down.	79	102	52	181
3	Mrs. J. Armstrong, Keeranbeg House, Donagh, Lisnaskea, Co. Fermanagh.	60	91	56	151

SECTION 5 (b).—WHITE LEGHORNS (STATION-HOLDERS).

1	Mr. P. King, Leitrim, Banbridge, Co. Down.	79	61	12	140
2	Mrs. E. A. Paul, Divernagh, Bessbrook, Co. Armagh.	36	79	35	115
3	Mrs. J. Brown, Gorsebank, Culcrum, Co. Antrim.	37	60	52	97

SECTION 5 (c).—RHODE ISLAND REDS (STATION-HOLDERS).

1	Mrs. T. J. McNeary, Gorran, Blackhill, Coleraine, Co. Derry.	43	138	30	181
2	Mrs. M. D. Bell, Woodview, Moneymore, Co. Derry.	104	75	25	179
3	Mrs. M. McClintock, Laymore, Ballymena, Co. Antrim.	28	143	63	171

SECTION 6.—POULTRY CLUBS AND YOUNG FARMERS' CLUBS.

1*	Banbridge and District Poultry Club	61	96	40	157
2**	Ballyclare Poultry Club	17	113	61	130
3***	Ballywalter Young Farmers' Club	85	42	52	127

*R.I.R. **W.L. ***R.I.R.

Mrs. McCullough's pen, which occupied first place in Section 5 (a), was the leading pen in the entire test at the end of the period, while Mrs. McNeill's pen, which was leading in Section 3, was second.

Four birds died during the period, one each from Sections 1, 4, 5 (b) and 6. This brings the number of deaths from the commencement of the test to 8, one each from Sections 1, 2, 4 and 5 (c), and two each from Sections 5 (b) and 6.

PRICES OF FEEDING STUFFS.

The following table shows the average retail prices per cwt. of Feeding Stuffs at 1st December, 1935, with comparative figures for the corresponding date in 1934.

	1935.					1934.				
	Price per cwt.	Protein equivalent	Price per unit of protein equivalent	Starch equivalent	Price per unit of starch equivalent	Price per cwt.	Protein equivalent	Price per unit of protein equivalent	Starch equivalent	Price per unit of starch equivalent
STARCHY FOODS—	s. d.		s. d.		s. d.	s. d.		s. d.		s. d.
Maize (whole)	4 10	6.8	14 2	81.5	1 2	6 1	6.8	17 11	81.5	1 6
Maize Meal	5 1	6.8	14 11	81.5	1 3	6 7	6.8	19 4	81.5	1 7
Bran, Red	7 1	10.0	14 2	45.3	3 2	7 8	10.0	15 4	45.3	3 4
Bran, White	8 4	10.0	16 8	45.3	3 8	8 6	10.0	17 0	45.3	3 9
Pollard, Brown	7 3	11.0	13 2	71.2	2 0	7 5	11.0	13 6	71.2	2 1
Pollard, White	8 4	11.0	15 2	71.2	2 4	8 6	11.0	15 5	71.2	2 4
Barley Meal	6 8	6.2	21 6	69.7	1 11	8 7	6.2	27 8	69.7	2 5
Oats	5 1	7.6	13 5	60.0	1 8	5 6	7.6	14 6	60.0	1 10
Wheat (whole)	7 0	9.6	14 7	72.0	1 11	—	—	—	—	—
PROTEIN FOODS—										
Linseed Cake, home-made ..	10 5	25.0	8 4	71.8	2 11	11 0	25.0	8 10	71.8	3 1
Linseed Cake, foreign	9 2	25.0	7 4	71.8	2 7	9 10	25.0	7 1	71.8	2 5
Linseed Cake Meal	9 7	25.0	7 8	72.8	2 8	10 3	25.0	8 2	72.8	2 10
Cotton Cake, decorticated ..	9 1	35.0	5 2	71.2	2 7	9 5	35.0	5 5	71.2	2 8
Cotton Cake, undecorticated ..	6 5	17.0	7 7	39.2	3 3	6 11	17.0	8 2	39.2	3 6
Earth Nut Cake, decorticated ..	8 7	41.0	4 2	73.0	2 4	8 7	41.0	4 2	73.0	2 4
Soya Bean Meal, (extracted) ..	8 9	38.0	4 7	64.0	2 9	9 0	38.0	4 9	64.0	2 10
Fish Meal (60% protein)	15 3	53.0	5 9	58.9	5 2	17 1	53.0	6 5	58.9	5 10
Meat and Bone Meal (40% Protein)	9 7	36.2	5 3	44.0	4 4	9 9	36.2	5 4	44.0	5 7
Meat and Bone Meal (60% protein)	14 8	54.9	5 4	61.3	4 9	15 1	54.9	5 6	61.3	4 11
OTHER FEEDING STUFFS—										
Linseed, whole	15 5	19.0	16 3	119.2	2 7	15 8	19.0	16 6	119.2	2 7
Palm Nut Cake	8 1	17.0	9 6	70.2	2 4	7 8	17.0	9 0	70.2	2 2
Palm Nut Meal	8 2	17.0	9 7	78.0	2 1	7 11	17.0	9 4	78.0	2 0
Potatoes	2 6	0.6	83 4	18.0	2 9	2 5	0.6	80 7	18.0	2 8
Oat Straw	1 10	0.9	40 9	20.0	1 10	1 9	0.9	39 1	20.0	1 9
Meadow Hay	2 1	4.6	9 1	37.0	1 2	2 2	4.6	9 4	37.0	1 2

One of the objects of the foregoing table is to guide farmers in the economic purchase of feeding stuffs.

Ignoring their mineral content, the valuable constituents of any feeding stuff, whether home-grown or purchased, consist of :—

(1) Carbohydrates—a group of substances which include materials such as starch, sugar, etc. They supply heat or energy to the animal, and the surplus is stored by the animal as fat.

(2) Oil—which also provides heat or energy, the surplus being stored as fat. For this purpose oil is approximately 2½ times as valuable as the carbohydrates, but its presence in the ration in excessive quantities may lower the digestibility of the ration and cause digestive troubles.

(3) Protein—The group of bodies termed protein or albuminoids contain nitrogen. Protein is the only ingredient of a feeding stuff which can produce flesh or muscle and hence its special importance.

All animals require a certain amount of each of the above constituents, but the relative amounts depend upon the class of stock. Thus, for example, a two-year-old fattening bullock requires a relatively small amount of protein (flesh forming material). Its ration should consist mainly of foods rich in carbohydrates, i.e., fat producing substances. On the other hand, a dairy cow is producing milk, which is a substance rich in protein, and as the protein, that is flesh forming material in milk, can only be derived from the protein in the food, the ration for the dairy cow must contain considerably more protein than that for the fattening bullock.

There are very wide differences in the composition of feeding stuffs both home grown and purchased. Some, such as oats and maize, are rich in carbohydrates and, therefore, particularly valuable for fattening purposes, whilst others, such as decorticated cotton cake, earthnut cake and linseed cake, are rich in protein, and are chiefly valuable for their flesh and milk-producing properties.

In the following table the composition of some of the more commonly used feeding stuffs is shown :—

PERCENTAGE COMPOSITION

	Water.	Protein.	Oil.	Carbohydrates.
Turnips (Swede)	88	1	0.2	9
Potatoes	75	2	0.1	21
Oat Straw	14	4	2	37
Meadow Hay	10	10	3	45
Pasture Grass	80	3.5	0.8	10
Cabbage	89	1.5	0.5	8
Fattening Foods—				
Oats	13	9	6	60
Maize Meal	12	10	4	70
Barley Meal	13	12	2	66
Flesh Forming Foods—				
Linseed Cake	11	30	10	35
Decorticated Cotton Cake	9	40	9	26

The farmer frequently asks what is the cheapest feeding stuff to buy. It is, however, often very difficult to give a direct answer. Much depends upon what the feeding stuff is required for, whether for fattening or milk production. Again, maize and oats are essentially fattening foods whilst decorticated cotton cake is a flesh-forming food, and it would be just as futile to use the cost per ton to compare their values as it would be to use the cost per ton to compare the values of, say, sulphate of ammonia and superphosphate.

Foods of similar composition can, however, be compared, and it is possible for the enterprising farmer to effect considerable economies, not only in the use of home grown feeding stuffs, but particularly in the purchase of concentrated feeding stuffs, by studying the market prices.

The starch equivalent figure is a measure of the energy, heat or fat producing value of the feeding stuff, and shows the number of pounds of starch which would be required to give the same heat or energy as 100 lb. of the feeding stuff. For example, the table on page 57 states that the starch equivalent of maize meal is 81½, or, in other words, 100 lb. of maize meal will provide as much heat or energy as 81½ lb. of pure starch.

The protein equivalent figure shows the number of pounds of digestible flesh or muscle producing material in 100 lb. of each of the feeding stuffs listed.

PRICES OF FERTILISERS.

The following table shows the ranges of retail cash prices of fertilisers per ton at 1st December, 1935.

		Cost of unit of fertilising ingredient at average of range of prices shown.		
		Nitrogen	Phos. Acid	Potash
Nitrogenous Manures.				
Nitrate of Soda (15%N)	£7 12 6	10/2		
Sulphate of Ammonia (20.6%N)	7 0 0 to £8 0 0	7/3		
Nitro Chalk (15.5%N)	7 0 0	9/–		
Phosphatic Manures.				
Superphosphate (16%S.P.A.)	£3 10 0 to £4 0 0			
Semsol (5% S.P.A. 15½% P.A.)	3 0 0 to 3 10 0			
Basic Slag (18% P.A.)	3 10 0 to 4 0 0		4/2	
Gafsa Mineral Phosphate (26% P.A.)	2 10 0 to 3 5 0		2/3	
Potash Manures.				
Kainit (14% P.)	£3 0 0 to £3 10 0			4/7¾
Potash Salts (20% P.)	4 0 0 to 4 10 0			4/6
Potash Salts (30% P.)	5 0 0 to 5 10 0			3/6
Muriate of Potash (50% P.)	7 10 0 to 8 0 0			3/6
Agricultural Salt	£1 10 0 to £3 0 0			

Abbreviations: N.=Nitrogen. S.P.A.=Soluble Phosphoric Acid. P.A.=Phosphoric Acid. P.=Potash.

The cost of the unit of fertilising ingredient is determined by dividing the price per ton by the percentage of the ingredient contained in the manure, and this method of determining values is the only sound basis on which two grades of a manure which supplies the same fertilising ingredient can be compared. The price per ton is not a reliable guide as to which is the better value for money. For example, in the above table it is seen that the average of the range of prices for 14% Kainit is £3 5s. od. per ton, and for 30% Potash Salts £5 5s. od. per ton, and it might be concluded that the Kainit was the best value for money. This is not so. The 30% Potash Salts contains more than twice as much Potash as the Kainit, and is, therefore, a cheaper source of potash when the price is even double that at which the Kainit is offered. The cost of a unit of Potash in the 30% Potash Salts is seen to be only 3/6, whereas the cost of a unit in Kainit is 4/7¾. At the prices ruling for these manures, 30% Potash Salts is, therefore, better value for money than Kainit. Similarly, it is seen that Gafsa phosphate is a cheaper source of Phosphoric acid than Basic Slag, and that Sulphate of Ammonia is the cheapest source of Nitrogen.

Statement showing the Shipments of Live Stock from Northern Ireland Ports during the following periods, month of November, 1935, October, 1935, November, 1934, eleven months ended 30th November, 1935, and 30th November, 1934.

PORTS OF :—	CATTLE.						SHEEP.				PIGS.			Horses
	Fat	Stores	Milch Cows	Springers	Calves	Total	Fat	Stores	Lambs	Total	Fat	Stores	Total	
Belfast	7,557	11,371	1,382	41	229	20,580	8,484	–	–	8,484	3,811	–	3,811	255
Larne	10	835	–	4	89	938	1,585	–	–	1,585	1,261	58	1,319	36
Londonderry ..	410	6,572	79	43	813	7,917	3,302	–	–	3,302	362	–	362	–
Newry	91	369	–	–	–	460	64	–	–	64	–	–	–	–
Total, Nov., 1935	8,068	19,147	1,461	88	1,131	29,895	13,435	–	–	13,435	5,434	58	5,492	291
Total, Oct., 1935	9,080	27,223	2,258	263	606	39,430	15,296	–	–	15,296	4,872	49	4,921	223
Total,, Nov. 1934	3,598	23,987	1,704	234	638	30,161	5,845	–	–	5,845	5,600	57	5,657	370
Total Eleven months ended 30th Nov., 1935	71,772	194,862	17,027	3,011	17,260	303,932	64,886	6	92,259	157,151	75,397	2,509	77,906	4,959
Total, Eleven months ended 30th Nov., 1934	46,781	164,608	16,959	3,618	12,905	244,871	34,029	185	93,455	127,669	65,891	3,174	69,065	4,888

IMPORTS AND EXPORTS.

Table showing the Imports and Exports through Northern Ireland ports of certain Agricultural Products during the month ended 31st October, 1935, and the ten months ended 31st October, 1935, with comparative figures for the corresponding periods in 1934.

(These figures are supplied through the courtesy of the Ministry of Commerce and are subject to revision.)

Commodity.	IMPORTS.				EXPORTS.			
	Month ended 31st October		Ten months ended 31st Oct.		Month ended 31st October		Ten months ended 31st Oct.	
	1935	1934	1935	1934	1935	1934	1935	1934
Bacon cwt.	2,597	3,023	26,742	33,905	24,792	27,068	188,617	153,188
Hams ,,	590	941	7,976	7,949	14,904	12,446	105,615	94,841
Pork ,,	—	—	8	594	2,314	4,196	32,095	28,422
Butter ,,	5,127	7,537	110,313	121,673	741	828	5,511	5,439
Eggs gt. hds.	9,899	6,130	63,320	56,477	235,091	213,417	3,010,038	2,961,662
Oat Products (including Oatmeal) cwt.	2,146	2,795	17,615	23,837	8,863	8,614	70,274	42,120
Potatoes tons	7	11	155	276	6,070	3,526	109,768	103,125
Poultry cwt.	—	6	161	85	9,496	11,372	124,176	123,983
Grass Seeds ,,	3,023	1,045	38,137	22,552	3,757	16,856	230,008	192,683

There were no imports of oats from abroad direct through Northern Ireland ports either in October, 1935, or in the corresponding month of last year.

PRICES OF FAT STOCK.

The following are the average prices per live cwt. of bullocks and heifers, sold at Belfast Auction Marts during each of the four weeks ended 26th November, 1935 :—

Week Ended.	Bullocks.		Heifers.	
	s.	d.	s.	d.
5th November ..	28	6	28	9
12th November ..	29	6	29	3
19th November ..	30	3	30	3
26th November ..	29	9	30	3

Average Prices of Live Stock at Fairs during the month of November, 1935.

Date.	Fair.	Calves (under 9 months.)	Store Cattle.	Fat Cattle (18 months and over).	Springers.		Milch Cows	Store Sheep.		Fat Lambs (under 12 months old).	Young Pigs.
					Cows.	Heifers.		Feeding Lambs (under 12 m'ths old)	Breeding Ewes.		
		Per head	Per Cwt. Live wgt.	Per cwt. Live wgt.	Per head	Per head	Per head	Per head	Per head	Per head	Per head
		£ s.			£ s.	£ s.	£ s.	£. s.	£ s.	£ s.	£ s.
1	Moy ..	– –	26/6 to 32/6	26/6	12 0	10 0	11 0	†0 8/6	– –	– –	– –
5	Omagh ..	4 5	28/– to 30/–	25/6	16 10	12 10	14 0	– –	*1 12/6	*1 10	– –
6	Londonderry ..	– –	24/– to 29/–	26/–	17 0	15 0	– –	– –	*1 16	– –	1 6
6	Rathfriland ..	5 0	25/– to 27/–	26/–	16 0	12 10	14 0	– –	– –	*1 7/6 †1 1	1 10
7	Ballymoney ..	4 18/9	27/6 to 29/6	26/6	14 0	13 0	– –	– –	– –	– –	1 7/6
8	Ballygawley ..	– –	27/– to 33/6	27/–	15 15	14 0	15 0	– –	– –	– –	1 13/6
8	Irvinestown ..	4 15	25/– to 30/–	26/–	17 0	12 10	14 0	*0 17/6	– –	– –	1 14
11	Enniskillen ..	3 7/6	23/– to 27/–	26/–	15 0	11 10	14 0	– –	– –	– –	– –
12	Dungiven ..	– –	24/– to 30/–	26/–	16 5	13 0	– –	– –	– –	†0 16	1 6
12	Strabane ..	4 0	27/6 to 30/6	–	14 0	– –	– –	– –	– –	– –	– –
13	Crossgar ..	– –	28/– to 31/–	–	18 0	15 0	16 10	– –	– –	– –	1 15
13	Kilrea ..	4 0	25/– to 27/6	26/6	16 10	11 10	14 10	– –	*1 15	– –	1 7/6
16	Portadown ..	4 4/3	27/– to 29/–	27/6	17 0	14 0	17 0	– –	– –	– –	1 12/6
18	Camlough ..	4 0	22/– to 28/–	27/6	14 10	13 10	13 10	– –	– –	– –	– –
20	Lisnaskea ..	4 6/3	25/– to 31/–	29/–	15 0	14 10	14 0	– –	– –	– –	1 11
21	Ballynahinch ..	– –	27/– to 29/–	28/–	17 10	14 5	16 0	– –	– –	*1 7	1 15
21	Moneymore ..	2 2/3	20/– to 27/–	26/–	14 10	10 10	12 5	†0 11/3	– –	– –	1 6/3
22	Fintona ..	4 5/3	28/– to 31/–	26/6	15 10	14 5	15 0	– –	*1 10	*1 6	1 10
28	Antrim ..	5 7	27/– to 31/–	30/–	21 0	– –	19 10	– –	– –	– –	1 10
29	Castlederg ..	4 0	27/– to 30/6	28/–	11 0	– –	– –	– –	*1 5 †0 15	– –	1 6
29	Killylea ..	– –	24/– to 33/–	28/–	16 0	12 10	15 0	*1 7/6	–	– –	– –
30	Ballymena ..	5 7/6	21/– to 32/6	–	17 0	17 10	14 15	– –	–	– –	1 12

* Downs and Cross.

† Mountain.

Table showing the numbers of Live Stock (1) exposed for sale and (2) sold at 22 fairs in Northern Ireland during the months of November, 1934, and October and November, 1935.

Description of Live Stock.	November, 1934.		October, 1935.		November, 1935.	
	Number exposed for sale.	Number sold.	Number exposed for sale.	Number sold.	Number exposed for sale.	Number sold.
Store Cattle ..	9,778	6,083	10,550	6,915	10,538	7,270
Fat Cattle ..	1,131	879	1,655	1,390	1,427	1,269
Dairy Cattle ..	1,437	1,180	1,788	1,371	1,692	1,351
Sheep	677	505	2,947	1,790	326	198
Lambs	1,016	760	2,966	2,227	617	518
Young Pigs ..	3,375	2,915	3,434	2,915	3,251	2,716

The offerings of cattle at fairs held during November were almost equal to those of the previous month and larger than in the corresponding month of 1934.

Trade generally was brighter than a month ago, and prices recorded an improvement. The large supplies of store cattle experienced a better demand, and strong cattle in forward condition and choice small stores were selling at slightly firmer rates.

There was a slight but steady improvement in trade for fat cattle, and prices finished higher. The best trade at fairs ruled for dairy cattle. Good quality springing cows and heifers were in keen demand for shipment, and prices for these advanced. Good milch cows likely to suit the dairy trade also sold well to local buyers at late rates.

Sheep were in smaller offerings, and fat lambs and good breeding ewes, principally of the Downs and Cross-bred type, were in fairly good request at firm prices. Store sheep were, however, a dull trade and cheaper on the month. Young pigs at fairs were less numerous than a month ago or during November, 1934, and while the demand was not as brisk as in October last, a steady trade ruled throughout at slightly easier prices. Brood sows, which were offered in small numbers, were generally of poor quality, and for these trade was slow and prices cheaper. Good young sows, however, met with a ready sale at fully late rates.

11th December, 1936.

G2208 Wt.1967/455 3,500 12/35 R.H.R. Gp.5.

GOVERNMENT OF NORTHERN IRELAND.
MINISTRY OF AGRICULTURE.

List of Ministry's Leaflets and other Publications.

No. 1. Flax Seed, 1935.
" 2. Improvement of Farm Poultry.
" 3. Feeding for Egg Production.
" 4. Marketing of Eggs.
" 5. The Dishorning of Calves.
" 6. The Packing of Apples in Standard Boxes.
" 7. Potato Variety Trials.
" 8. Seed Testing for Farmers.
" 9. The Renovation of Orchards.
" 10. Fruit Tree Pests—Capsid Bugs.
" 11. Fruit Tree Pests—Aphides and Apple Sucker.
" 12. Fruit Tree Pests—Caterpillars.
" 13. Contagious Abortion in Cattle.
" 14. Cheese-making on the Farm.
" 15. Suitable Varieties of Fruit.
" 16. The Feeding of Dairy Cows.
" 17. Home Bottling of Fruits and Vegetables
" 18. Marketing of Dead Poultry.
" 19. How to Feed Linseed.
" 20. The Hatching and Rearing of Chickens.
" 21. The Uses and Advantages of Portable Poultry Houses.
" 22. Leather-Jacket Grubs.
" 23. The Handling and Care of Wool.
" 24. Fluke in Sheep.
" 25. The Rearing and Management of Young Horses.
" 26. Ordnance Survey Maps for Farmers
" 27. How to Keep Eggs Clean.
" 28. The Construction of a Laying House for Poultry.
" 29. The Selection and Breeding of Laying Hens.
" 31. Coccidiosis in Poultry.
" 32. Roup of Poultry (Fowl Pox).
" 33. Spraying Calendar for Apple Orchards.
" 34. The Pruning of Apple Trees.
" 35. The Fattening of Pigs.
" 36. Advantages of Milk Recording.
" 37. The Raising and Fattening of Turkeys.
" 38. The Destruction of Charlock.
" 39. The Production of Clean Milk.
" 40. The Laying Down and Management of Temporary Pastures.
" 41. Blackleg, Blackquarter or Quarterill.
" 42. The Purchase of Balanced Rations for Dairy Cows.
No. 43. Tuberculosis in Poultry.
" 44. Results of Crop Experiments.
" 45. The Breeding and Rearing of Pigs.
" 46. Hints for Winter Egg Production.
" 47. The Care and Management of Sheep.
" 48. Baby Beef Production.
" 49. American Gooseberry Mildew.
" 50. Potato Blight.
" 51. Butter-making on the Farm.
" 52. Gapes in Chickens.
" 54. The Breeding and Rearing of Calves.
" 55. Destruction of Ragwort or Benweed.
" 56. Identification of Egg Supplies.
" 57. How to have Eggs of First Quality.
" 58. How the Fertilisers and Feeding Stuffs Act benefits the farmer.
" 59. Bacillary White Diarrhoea.
" 60. Advantages of Winter Agricultural Classes.
" 61. The Care and Management of Breeding Bulls.
" 62. The Production of Timber on the Farm.
" 63. Sheep—Castration, Docking, Foot-Rot and Care of Feet.
" 64. The Destruction of Warble Fly Maggots in Cattle.
" 65. The Packing of Apples in Barrels.
" 66. Seed Testing Facilities for Traders.
" 67. The Cultivation of Vegetables.
" 68. The Cultivation of Strawberries
" 69. The Construction of Piggeries.
" 70. Ringworm.
" 71. The Cultivation of Raspberries.
" 72. Tree Planting for Shelter and Ornament.
" 73. The Propagation and Maintenance of Healthy Stocks of Potatoes.
" 74. New Pure Strains of Flax.
" 75. Pig Production and the Pigs Marketing Scheme.
" 76. Acarine (Isle of Wight) Disease of Bees.
" 77. Licensing of Milk Producers and Distributors.
" 78. Graded Milk.
" 79. The Picking and Storing of Apples.
" 80. Hoose or Husk in Farm Stock.
" 81. The Construction of Cow Houses.
" 82. White Scour in Calves.

Any of the above leaflets may be obtained free of charge and post free on application to the Secretary, Ministry of Agriculture, Stormont, Belfast.

CIRCULARS.

No. 1. Phosphatic Fertilisers.
" 5. Why Pay a Tax on the Horns of Cattle?
" 8. Basic Slag.
" 9. Smut in Oats.
" 10. Purchase of Fertilisers and Feeding Stuffs.
" 11. Fertilisers and Feeding Stuffs Act—General Summary.
" 12. The treatment of Liver Fluke.
" 306. Fertilisers and Feeding Stuffs Act, 1926—Revision of Regulations.

MISCELLANEOUS PUBLICATIONS.

Store Cattle.
Reports on Egg-Laying Tests.
Crop Insurance.
List of Growers of Certified Crops of Immune Varieties of Potatoes.
List of Growers of Certified Crops of Non-Immune Varieties of Potatoes.
The Ministry's Monthly Report.
Register of Premium Stallions.
Guide to the Live Stock Breeding Act (Northern Ireland), 1922.
Guide to the Marketing of Fruit Act (Northern Ireland) 1932.

Any of the above publications may be obtained free of charge and post free on application to the Secretary, Ministry of Agriculture, Stormont, Belfast.

The following publications can be obtained from His Majesty's Stationery Office, 80 Chichester Street, Belfast, at the prices stated:—

(1) The Annual Report of the Ministry of Agriculture for Northern Ireland. Price 2/6 net.
(2) Annual Report upon the Agricultural Statistics of Northern Ireland. Price 2/- net.
(3) The Journal of the Ministry of Agriculture for Northern Ireland. Price 2/6 net.
(4) The Agricultural Output of Northern Ireland. 1925. Price 2/6 net.